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# WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration, National Weather Service

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National Agricultural Statistics Service and World Agricultural Outlook Board

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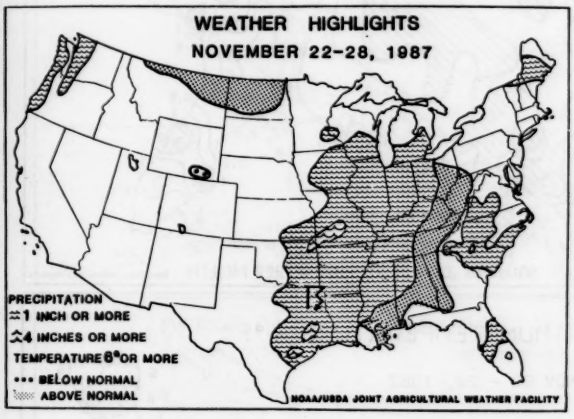
## National Weather Summary

November 22-28, 1987




HIGHLIGHTS: A developing storm brought severe weather to the south-central Plains early in the week. At midweek, snow moved into the northern Great Plains, the Upper Mississippi Valley, and the Great Lakes region. Thanksgiving Day storms produced heavy snow in the central and southern Rockies and in northern New England, and rain-showers through much of the East. Wetness in the East persisted to the end of the week.

SUNDAY...In the Northeast, winds diminished and temperatures rose dramatically following the cold spell of the preceding few days. Most of the rest of the Nation had near-normal temperatures, with little rain or snow. Rain fell in Washington and Oregon, mostly in coastal areas, with snow at higher elevations. Skies were clear over the eastern seaboard and the Tennessee Valley.

MONDAY...A band of heavy showers extended from northeast Texas to the lower Tennessee Valley. In the Northwest, gales struck the Washington-Oregon coast. Rain and snow fell over much of the West. Light rain and snow spread across upper Michigan. Temperatures climbed to near-normal levels in the East. Generally cool weather prevailed across the northern tier of States.

TUESDAY...Local flooding occurred from southern Missouri to Oklahoma, and severe thunderstorms developed in parts of Oklahoma and Texas. Warm weather prevailed along the east coast. Snow fell in the Dakotas.

WEDNESDAY...Rain drenched the central and southern Great Plains. Thunderstorms with tornadoes continued in east Texas. New snow covered the ground in Wisconsin. Snow also began to fall in Wyoming and Utah. Afternoon temperatures climbed above 60 degrees from the gulf coast and south Atlantic coast to the Ohio Valley.

THURSDAY...Thanksgiving Day storms brought snow to the central and southern Rockies and to northern New England. Much of the Nation east of the Rockies was cloudy and wet. Rainshowers were prevalent from southern New England to the central and eastern Gulf Coast States. Skies were sunny west of the Rockies.

FRIDAY...Snow spread across the central Plains. A mixture of snow and freezing rain fell over the upper Mississippi Valley. Much of the East remained cloudy and wet, while dry weather prevailed over the western half of the Nation.

SATURDAY...Snow and freezing rain continued over the upper Mississippi Valley. Heavy snow blanketed eastern Nebraska and Iowa. Rainfall was widespread from the Great Lakes to the middle and southern Atlantic Coast States. New England and the western half of the Nation were dry.

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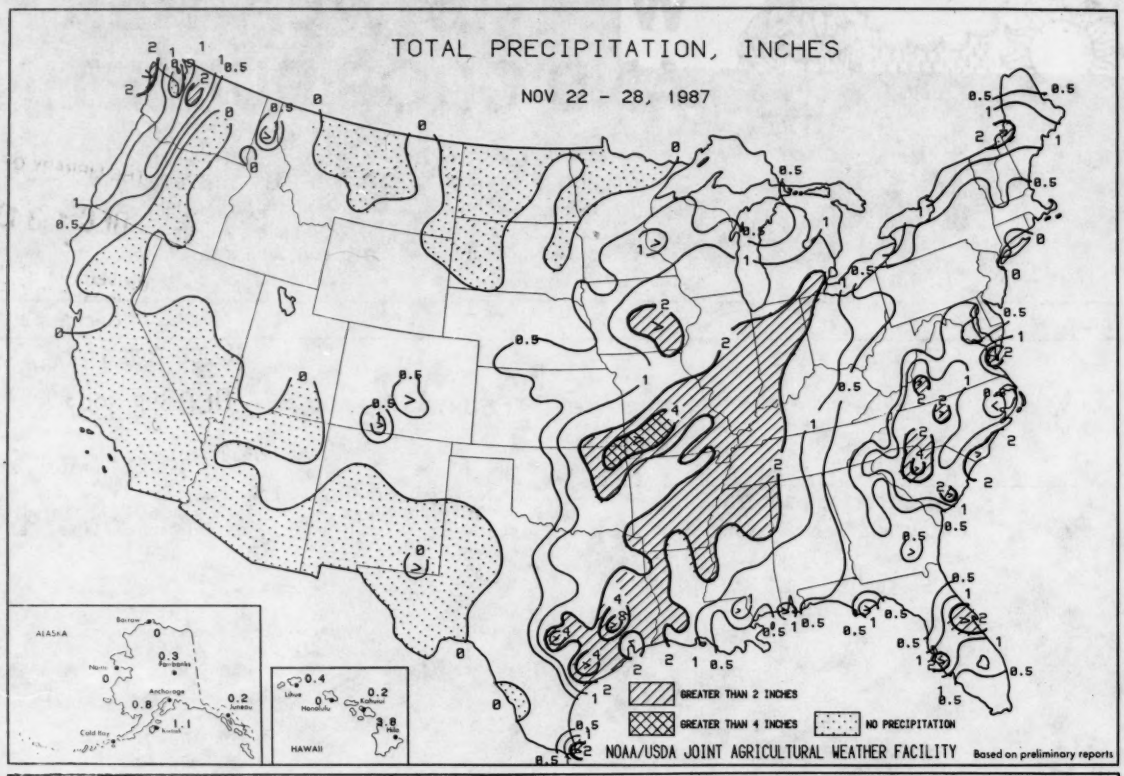
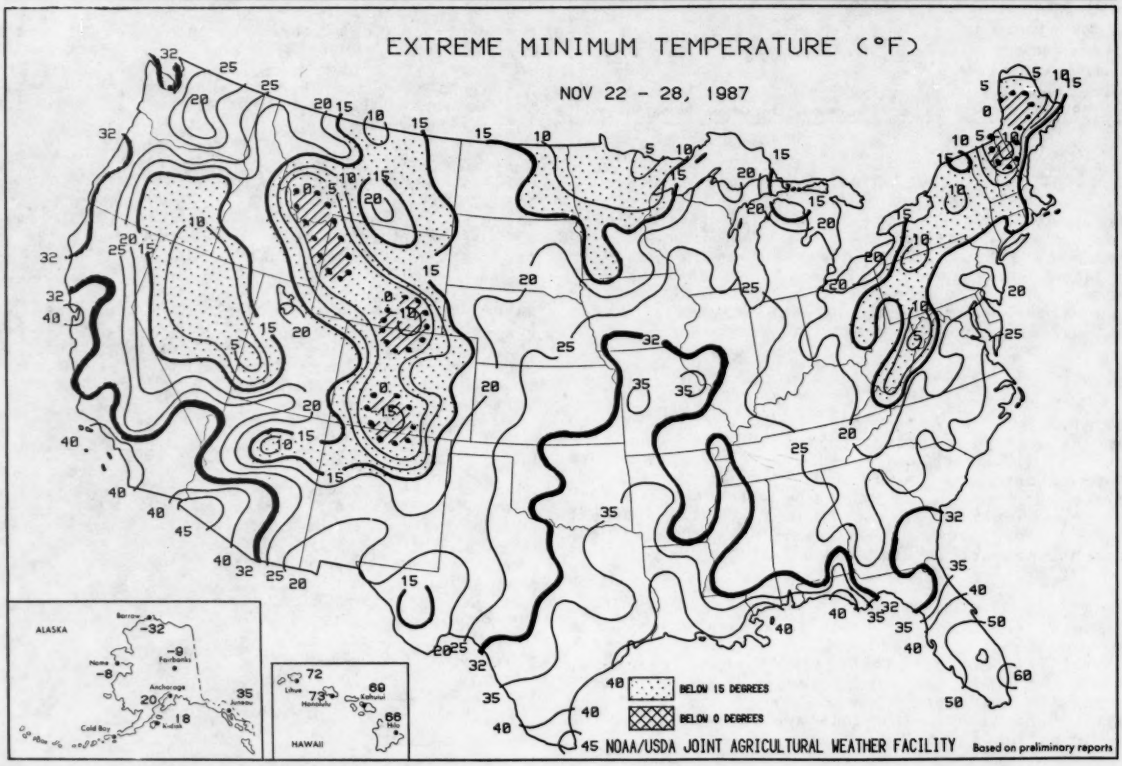
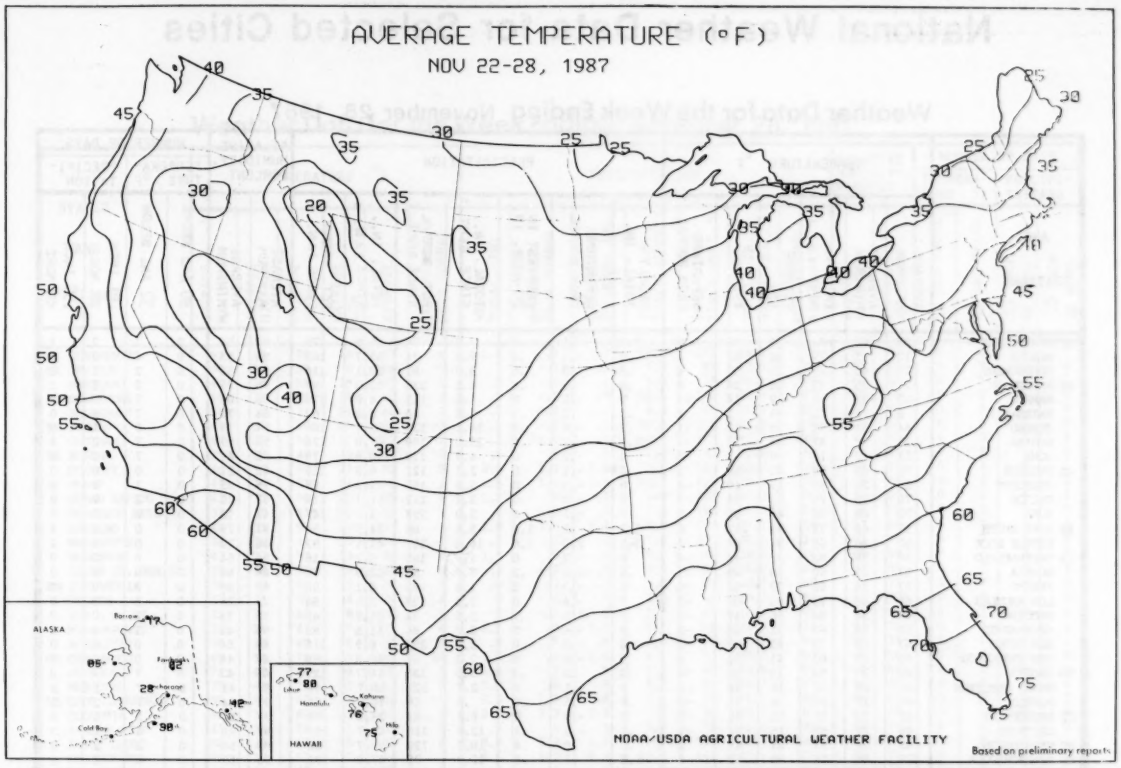
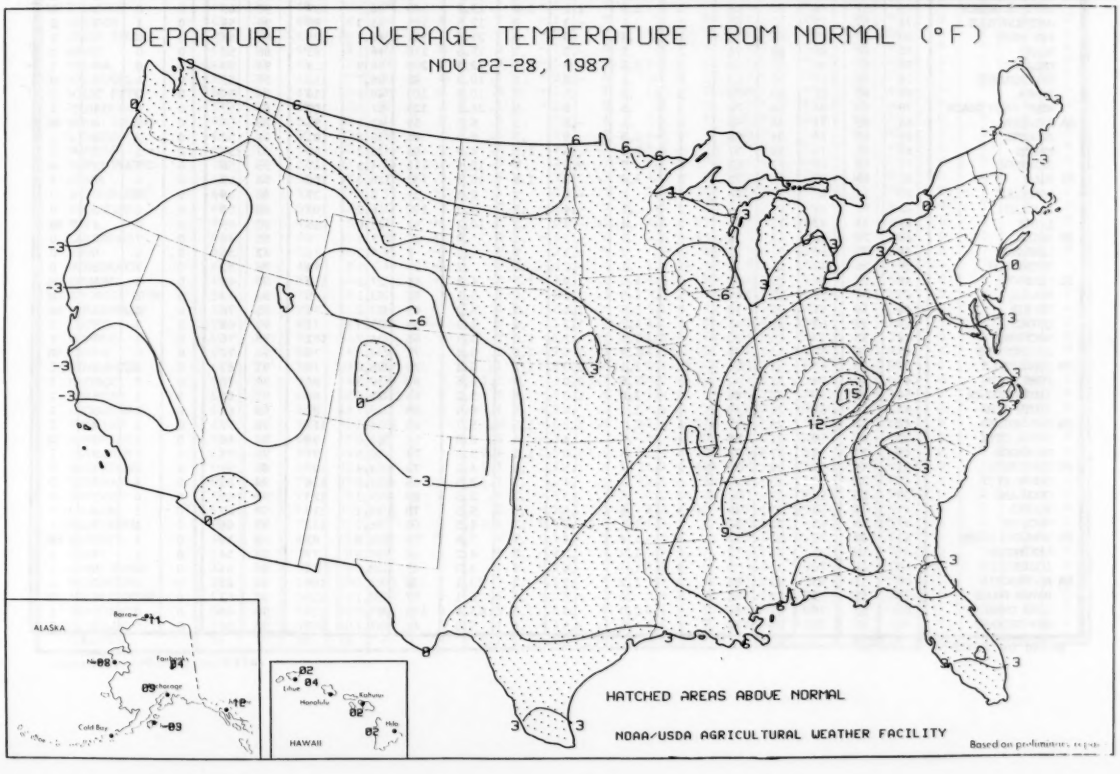

TOTAL PRECIPITATION, INCHES
NOV 22 - 28, 1987
ALASKA
HAWAII
GREATER THAN 2 INCHES
GREATER THAN 4 INCHES
NO PRECIPITATION
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


EXTREME MINIMUM TEMPERATURE (°F)
NOV 22 - 28, 1987
ALASKA
HAWAII
BELOW 15 DEGREES
BELOW 0 DEGREES
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


AVERAGE TEMPERATURE (°F)
NOV 22-28, 1987
ALASKA
HAWAII
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL (°F)
NOV 22-28, 1987
ALASKA
HAWAII
HATCHED AREAS ABOVE NORMAL
NOAA/USDA AGRICULTURAL WEATHER FACILITY

# National Weather Data for Selected Cities

## Weather Data for the Week Ending November 28, 1987

| STATES AND STATIONS | TEMPERATURE °F | | | | | | PRECIPITATION | | | | | | | RELATIVE HUMIDITY, PERCENT | | NUMBER OF DAYS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | TEMPERATURE °F | | PRECIPITATION | |
| | AVERAGE MAXIMUM | AVERAGE MINIMUM | EXTREME HIGH | EXTREME LOW | AVERAGE | DEPARTURE FROM NORMAL | WEEKLY TOTAL, IN. | DEPARTURE FROM NORMAL | GREATEST IN 24-HOUR, IN. | TOTAL, IN., SINCE SEPT. 1 | PCT. NORMAL SINCE SEPT. 1 | TOTAL, IN., SINCE JAN. 1 | PCT. NORMAL SINCE JAN. 1 | AVERAGE MAXIMUM | AVERAGE MINIMUM | 90 AND ABOVE | 32 AND BELOW | .01 INCH OR MORE | .50 INCH OR MORE |
| AL BIRMINGHAM | 68 | 48 | 72 | 28 | 58 | 9 | 1.1 | .1 | .9 | 7.2 | 70 | 36.9 | 75 | 90 | 54 | 0 | 1 | 2 | 1 |
| MOBILE | 72 | 51 | 79 | 34 | 62 | 6 | .7 | -.3 | .4 | 9.2 | 74 | 63.7 | 109 | 96 | 58 | 0 | 0 | 2 | 0 |
| MONTGOMERY | 73 | 45 | 77 | 25 | 59 | 6 | .8 | 0 | .8 | 8.8 | 91 | 50.1 | 114 | 94 | 53 | 0 | 2 | 1 | 1 |
| AK ANCHORAGE | 31 | 25 | 33 | 20 | 28 | 9 | .8 | .5 | .5 | 6.1 | 119 | 13.3 | 97 | 95 | 75 | 0 | 7 | 3 | 1 |
| BARROW | -10 | -23 | -1 | -32 | -17 | -11 | T | -.1 | T | 1.6 | 115 | 4.8 | 110 | 80 | 66 | 0 | 7 | 0 | 0 |
| FAIRBANKS | 8 | -4 | 11 | -9 | 2 | 4 | .3 | .1 | .1 | 1.6 | 64 | 6.0 | 62 | 86 | 70 | 0 | 7 | 4 | 0 |
| JUNEAU | 44 | 39 | 48 | 35 | 42 | 11 | .2 | -.9 | .2 | 24.1 | 127 | 51.7 | 108 | 94 | 70 | 0 | 0 | 1 | 0 |
| KODIAK | 36 | 24 | 41 | 18 | 30 | -3 | 1.1 | -.2 | .6 | 20.0 | 108 | 67.8 | 124 | 92 | 59 | 0 | 7 | 2 | 2 |
| NOME | 11 | -2 | 18 | -8 | 5 | -8 | 0 | -.2 | 0 | 4.9 | 110 | 10.8 | 78 | 61 | 44 | 0 | 7 | 0 | 0 |
| AZ PHOENIX | 70 | 46 | 75 | 41 | 58 | 1 | 0 | -.1 | 0 | 2.1 | 121 | 6.8 | 112 | 62 | 21 | 0 | 0 | 0 | 0 |
| PRESCOTT | 55 | 24 | 59 | 19 | 40 | -2 | 0 | -.3 | 0 | 5.9 | 150 | 15.3 | 89 | 76 | 25 | 0 | 7 | 0 | 0 |
| TUCSON | 70 | 38 | 75 | 32 | 54 | -1 | 0 | -.2 | 0 | 3.1 | 113 | 11.1 | 110 | 57 | 20 | 0 | 2 | 0 | 0 |
| YUMA | 72 | 48 | 76 | 46 | 60 | 0 | 0 | -.1 | 0 | 2.0 | 293 | 3.1 | 147 | 47 | 18 | 0 | 0 | 0 | 0 |
| AR FORT SMITH | 57 | 44 | 73 | 35 | 51 | 4 | 1.3 | .5 | 1.0 | 8.6 | 89 | 34.5 | 94 | 97 | 75 | 0 | 0 | 4 | 1 |
| LITTLE ROCK | 57 | 46 | 66 | 37 | 52 | 4 | 3.1 | 2.0 | 1.6 | 16.8 | 151 | 41.1 | 92 | 88 | 72 | 0 | 0 | 5 | 2 |
| CA BAKERSFIELD | 58 | 39 | 62 | 33 | 49 | -4 | 0 | -.2 | 0 | 1.6 | 160 | 5.7 | 116 | 96 | 54 | 0 | 0 | 0 | 0 |
| EUREKA | 57 | 41 | 60 | 38 | 49 | -1 | .5 | -1.1 | .2 | 5.0 | 55 | 22.9 | 72 | 88 | 64 | 0 | 0 | 4 | 0 |
| FRESNO | 57 | 34 | 60 | 29 | 46 | -4 | 0 | -.3 | 0 | 1.4 | 82 | 8.1 | 93 | 99 | 55 | 0 | 3 | 0 | 0 |
| LOS ANGELES | 69 | 48 | 73 | 45 | 59 | -1 | 0 | -.4 | 0 | 2.4 | 137 | 5.5 | 54 | 79 | 34 | 0 | 0 | 0 | 0 |
| REDDING | 61 | 34 | 64 | 30 | 47 | -3 | T | -1.5 | T | 2.6 | 31 | 21.9 | 65 | 88 | 33 | 0 | 2 | 0 | 0 |
| SACRAMENTO | 59 | 38 | 62 | 31 | 48 | -2 | T | -.6 | T | 2.7 | 86 | 11.5 | 83 | 94 | 49 | 0 | 1 | 1 | 0 |
| SAN DIEGO | 67 | 50 | 71 | 45 | 59 | -2 | 0 | -.3 | 0 | 3.8 | 252 | 8.9 | 115 | 84 | 54 | 0 | 0 | 0 | 0 |
| SAN FRANCISCO | 61 | 45 | 63 | 41 | 53 | 0 | T | -.6 | T | 2.3 | 67 | 10.8 | 68 | 87 | 48 | 0 | 0 | 1 | 0 |
| CO DENVER | 42 | 21 | 51 | 13 | 32 | -4 | .4 | .2 | .3 | 3.5 | 121 | 18.7 | 129 | 89 | 42 | 0 | 7 | 2 | 0 |
| GRAND JUNCTION | 43 | 24 | 50 | 19 | 34 | -2 | T | -.1 | T | 2.7 | 127 | 10.7 | 148 | 87 | 41 | 0 | 7 | 1 | 0 |
| PUEBLO | 45 | 17 | 60 | 4 | 31 | -5 | .6 | .5 | .6 | .9 | 46 | 10.0 | 96 | 91 | 44 | 0 | 7 | 2 | 1 |
| CT BRIDGEPORT | 47 | 32 | 57 | 15 | 40 | -2 | T | -.9 | T | 6.1 | 61 | 29.2 | 78 | 77 | 52 | 0 | 2 | 0 | 0 |
| HARTFORD | 46 | 27 | 59 | 15 | 37 | -1 | .1 | -.9 | .1 | 12.9 | 116 | 41.7 | 105 | 82 | 48 | 0 | 4 | 1 | 0 |
| DC WASHINGTON | 55 | 39 | 71 | 24 | 47 | 2 | .7 | 0 | .4 | 10.7 | 124 | 32.7 | 92 | 88 | 58 | 0 | 2 | 2 | 0 |
| FL APALACHICOLA | 70 | 56 | 74 | 39 | 63 | 5 | 1.2 | .5 | .8 | 10.9 | 75 | 47.0 | 92 | 96 | 69 | 0 | 0 | 2 | 1 |
| DAYTONA BEACH | 75 | 57 | 76 | 39 | 66 | 3 | 1.6 | 1.1 | 1.0 | 13.7 | 100 | 44.9 | 97 | 98 | 65 | 0 | 0 | 3 | 1 |
| JACKSONVILLE | 74 | 51 | 78 | 32 | 63 | 3 | .1 | -.3 | 0 | 12.5 | 105 | 43.3 | 88 | 99 | 59 | 0 | 1 | 3 | 0 |
| KEY WEST | 80 | 69 | 82 | 63 | 75 | 1 | .6 | 0 | .6 | 21.6 | 151 | 46.7 | 125 | 89 | 66 | 0 | 0 | 1 | 1 |
| MIAMI | 80 | 68 | 84 | 60 | 74 | 3 | .2 | -.2 | .1 | 19.6 | 110 | 46.1 | 83 | 86 | 58 | 0 | 0 | 3 | 0 |
| ORLANDO | 76 | 60 | 80 | 47 | 68 | 3 | 2.2 | 1.8 | 1.6 | 22.4 | 200 | 56.2 | 119 | 94 | 59 | 0 | 0 | 4 | 1 |
| TALLAHASSEE | 74 | 51 | 77 | 27 | 63 | 6 | .1 | -.8 | .1 | 10.3 | 82 | 66.7 | 112 | 96 | 53 | 0 | 1 | 3 | 0 |
| TAMPA | 79 | 60 | 81 | 43 | 70 | 5 | .9 | .5 | .7 | 10.6 | 103 | 48.6 | 110 | 94 | 54 | 0 | 0 | 3 | 1 |
| WEST PALM BEACH | 79 | 68 | 84 | 58 | 73 | 3 | .5 | 0 | .5 | 26.1 | 129 | 57.3 | 100 | 83 | 57 | 0 | 0 | 1 | 1 |
| GA ATLANTA | 64 | 46 | 71 | 30 | 55 | 6 | .1 | -.8 | .1 | 6.1 | 69 | 42.1 | 96 | 88 | 57 | 0 | 1 | 3 | 0 |
| AUGUSTA | 69 | 44 | 78 | 24 | 56 | 5 | 1.3 | .8 | .7 | 6.3 | 85 | 39.8 | 101 | 98 | 54 | 0 | 2 | 3 | 2 |
| MACON | 68 | 46 | 75 | 24 | 57 | 4 | 1.0 | .4 | 1.0 | 4.9 | 66 | 36.3 | 90 | 97 | 57 | 0 | 2 | 2 | 1 |
| SAVANNAH | 71 | 50 | 76 | 32 | 61 | 6 | T | -.4 | T | 10.6 | 115 | 54.9 | 117 | 95 | 56 | 0 | 1 | 2 | 0 |
| HI HILO | 81 | 68 | 83 | 66 | 75 | 2 | 3.8 | .2 | 1.8 | 40.3 | 132 | 118.3 | 104 | 95 | 69 | 0 | 0 | 7 | 3 |
| HONOLULU | 86 | 74 | 87 | 73 | 80 | 4 | T | -.8 | T | 2.1 | 39 | 5.7 | 29 | 80 | 48 | 0 | 0 | 0 | 0 |
| KAHULUI | 82 | 71 | 84 | 69 | 76 | 2 | .2 | -.4 | .1 | 3.3 | 108 | 16.2 | 106 | 88 | 58 | 0 | 0 | 2 | 0 |
| LIHUE | 81 | 73 | 82 | 72 | 77 | 2 | .4 | -.9 | .2 | 10.2 | 86 | 25.0 | 66 | 90 | 65 | 0 | 0 | 4 | 0 |
| ID BOISE | 43 | 24 | 48 | 18 | 34 | -3 | .1 | -.3 | .1 | .9 | 37 | 7.4 | 74 | 95 | 48 | 0 | 7 | 2 | 0 |
| LEWISTON | 44 | 31 | 54 | 27 | 37 | 0 | T | -.3 | T | .2 | 7 | 8.2 | 71 | 82 | 55 | 0 | 5 | 0 | 0 |
| POCATELLO | 39 | 18 | 42 | 13 | 29 | -3 | .1 | -.1 | 0 | .7 | 29 | 9.1 | 94 | 96 | 52 | 0 | 7 | 2 | 0 |
| IL CHICAGO | 48 | 37 | 56 | 29 | 42 | 6 | 1.5 | 1.0 | 1.0 | 4.9 | 61 | 37.2 | 118 | 88 | 68 | 0 | 1 | 6 | 1 |
| MOLINE | 45 | 35 | 58 | 27 | 40 | 5 | 1.5 | 1.0 | .8 | 5.1 | 62 | 33.1 | 95 | 90 | 73 | 0 | 2 | 5 | 1 |
| PEORIA | 46 | 34 | 57 | 28 | 40 | 5 | 1.8 | 1.4 | .9 | 5.2 | 65 | 23.2 | 71 | 95 | 76 | 0 | 3 | 5 | 1 |
| QUINCY | 47 | 35 | 62 | 32 | 41 | 4 | 1.7 | 1.2 | .6 | 4.9 | 53 | 25.3 | 71 | 95 | 69 | 0 | 3 | 5 | 2 |
| ROCKFORD | 44 | 35 | 52 | 25 | 39 | 6 | 1.3 | .8 | 1.0 | 5.7 | 65 | 34.7 | 101 | 95 | 76 | 0 | 1 | 5 | 1 |
| SPRINGFIELD | 49 | 36 | 57 | 33 | 42 | 4 | 1.9 | 1.5 | 1.0 | 5.4 | 71 | 24.3 | 76 | 92 | 70 | 0 | 0 | 5 | 1 |
| IN EVANSVILLE | 59 | 43 | 63 | 23 | 51 | 10 | 3.1 | 2.3 | 1.2 | 6.4 | 78 | 28.6 | 76 | 93 | 67 | 0 | 1 | 7 | 2 |
| FORT WAYNE | 49 | 34 | 59 | 21 | 42 | 6 | 2.6 | 2.0 | .9 | 6.6 | 88 | 30.5 | 96 | 96 | 70 | 0 | 2 | 5 | 3 |
| INDIANAPOLIS | 54 | 38 | 61 | 22 | 46 | 8 | 2.0 | 1.3 | .8 | 5.2 | 65 | 28.6 | 80 | 91 | 65 | 0 | 1 | 6 | 2 |
| SOUTH BEND | 47 | 34 | 55 | 25 | 40 | 4 | 1.3 | .6 | .5 | 8.6 | 95 | 30.1 | 87 | 89 | 65 | 0 | 2 | 5 | 1 |
| IA DES MOINES | 42 | 33 | 55 | 28 | 37 | 4 | 2.1 | 1.8 | 1.2 | 5.7 | 85 | 34.3 | 117 | 96 | 77 | 0 | 2 | 4 | 2 |
| SIOUX CITY | 42 | 29 | 56 | 21 | 36 | 4 | .6 | .4 | .4 | 2.8 | 54 | 24.0 | 98 | 94 | 66 | 0 | 5 | 2 | 0 |
| WATERLOO | 43 | 31 | 56 | 27 | 37 | 6 | 1.3 | 1.0 | 1.1 | 5.3 | 73 | 30.5 | 97 | 96 | 76 | 0 | 5 | 3 | 1 |
| KS CONCORDIA | 44 | 34 | 59 | 28 | 39 | 2 | .7 | .5 | .3 | 4.2 | 72 | 33.4 | 127 | 89 | 69 | 0 | 3 | 3 | 0 |
| DODGE CITY | 45 | 32 | 63 | 23 | 38 | 0 | .2 | .1 | .1 | 2.5 | 65 | 22.9 | 116 | 92 | 63 | 0 | 4 | 3 | 0 |
| GOODLAND | 39 | 25 | 56 | 17 | 32 | -3 | .4 | .3 | .2 | 2.5 | 89 | 19.3 | 123 | 96 | 69 | 0 | 6 | 3 | 0 |
| TOPEKA | 47 | 36 | 63 | 31 | 42 | 3 | .8 | .5 | .5 | 5.5 | 70 | 35.1 | 110 | 90 | 67 | 0 | 1 | 4 | 0 |
| WICHITA | 47 | 36 | 62 | 31 | 42 | 1 | 1.1 | .8 | .7 | 4.5 | 62 | 36.3 | 132 | 93 | 66 | 0 | 1 | 3 | 1 |
| KY BOWLING GREEN | 63 | 42 | 71 | 21 | 53 | 9 | 1.4 | .4 | .7 | 7.6 | 79 | 36.8 | 83 | 98 | 56 | 0 | 1 | 5 | 1 |
| LEXINGTON | 61 | 45 | 70 | 24 | 53 | 11 | 1.2 | .3 | .5 | 4.2 | 48 | 30.5 | 73 | 85 | 54 | 0 | 1 | 4 | 1 |
| LOUISVILLE | 60 | 44 | 70 | 23 | 52 | 9 | 1.4 | .6 | .6 | 4.2 | 45 | 28.0 | 71 | 92 | 57 | 0 | 1 | 5 | 1 |
| LA ALEXANDRIA | 69 | 54 | 82 | 42 | 61 | 7 | 1.2 | .1 | .7 | 13.1 | 134 | 51.5 | 109 | 80 | 61 | 0 | 0 | 2 | 2 |
| BATON ROUGE | 73 | 52 | 79 | 35 | 63 | 6 | .4 | -.6 | .4 | 6.1 | 57 | 58.1 | 115 | 96 | 53 | 0 | 0 | 1 | 0 |
| LAKE CHARLES | 68 | 52 | 78 | 41 | 60 | 3 | 2.0 | .9 | 1.5 | 13.6 | 103 | 57.7 | 119 | 96 | 68 | 0 | 0 | 2 | 1 |
| NEW ORLEANS | 75 | 53 | 79 | 36 | 64 | 6 | .5 | -.5 | .4 | 5.0 | 41 | 57.7 | 107 | 98 | 56 | 0 | 0 | 3 | 0 |

Based on 1951-80 normals.

## Weather Data for the Week Ending November 28, 1987

| STATES AND STATIONS | TEMPERATURE °F | | | | | | PRECIPITATION | | | | | | | RELATIVE HUMIDITY, PERCENT | | NUMBER OF DAYS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | TEMPERATURE °F | | PRECIPITATION | |
| | AVERAGE MAXIMUM | AVERAGE MINIMUM | EXTREME HIGH | EXTREME LOW | AVERAGE | DEPARTURE FROM NORMAL | WEEKLY TOTAL, IN. | DEPARTURE FROM NORMAL | GREATEST IN 24-HOUR, IN. | TOTAL, IN., SINCE SEPT. 1 | PCT. NORMAL SINCE SEPT. 1 | TOTAL, IN., SINCE JAN. 1 | PCT. NORMAL SINCE JAN. 1 | AVERAGE MAXIMUM | AVERAGE MINIMUM | 90 AND ABOVE | 32 AND BELOW | .01 INCH OR MORE | .50 INCH OR MORE |
| SHREVEPORT | 65 | 49 | 78 | 36 | 57 | 4 | 1.6 | .7 | 1.5 | 16.2 | 172 | 46.1 | 117 | 95 | 71 | 0 | 0 | 3 | 1 |
| ME CARIBOU | 30 | 17 | 38 | 8 | 24 | -3 | .1 | -.7 | .1 | 8.0 | 83 | 25.2 | 77 | 93 | 67 | 0 | 7 | 2 | 0 |
| PORTLAND | 42 | 24 | 59 | 16 | 33 | -1 | .8 | -.3 | .8 | 9.0 | 79 | 36.8 | 96 | 85 | 52 | 0 | 5 | 2 | 1 |
| MD BALTIMORE | 55 | 35 | 71 | 19 | 45 | 2 | .5 | -.2 | .5 | 12.6 | 133 | 36.9 | 97 | 91 | 52 | 0 | 2 | 2 | 0 |
| SALISBURY | 58 | 37 | 71 | 21 | 48 | 3 | .1 | -.6 | .1 | 8.0 | 76 | 33.1 | 80 | 90 | 52 | 0 | 2 | 1 | 0 |
| MA BOSTON | 45 | 32 | 60 | 17 | 38 | -3 | .1 | -.9 | .1 | 12.6 | 119 | 42.6 | 110 | 80 | 54 | 0 | 5 | 1 | 0 |
| CHATHAM | 46 | 35 | 54 | 17 | 40 | -2 | .1 | -1.0 | .1 | 14.7 | 127 | 46.7 | 113 | 88 | 61 | 0 | 2 | 2 | 0 |
| MI ALPENA | 39 | 28 | 46 | 12 | 34 | 2 | .6 | .1 | .5 | 7.0 | 97 | 22.0 | 82 | 92 | 74 | 0 | 5 | 2 | 0 |
| DETROIT | 46 | 35 | 54 | 21 | 41 | 5 | 2.0 | 1.4 | 1.5 | 7.6 | 118 | 33.5 | 119 | 88 | 62 | 0 | 1 | 5 | 1 |
| FLINT | 44 | 34 | 52 | 24 | 39 | 4 | 1.5 | 1.0 | 1.1 | 10.1 | 155 | 26.1 | 98 | 90 | 64 | 0 | 2 | 5 | 1 |
| GRAND RAPIDS | 43 | 33 | 50 | 22 | 38 | 3 | 1.2 | .5 | .7 | 8.8 | 103 | 29.3 | 95 | 95 | 67 | 0 | 3 | 4 | 1 |
| HOUGHTON LAKE | 37 | 30 | 43 | 22 | 33 | 3 | .4 | -.2 | .3 | 7.6 | 106 | 21.9 | 84 | 95 | 73 | 0 | 5 | 2 | 0 |
| LANSING | 44 | 33 | 53 | 23 | 38 | 4 | 1.9 | 1.3 | 1.1 | 9.3 | 133 | 27.1 | 100 | 92 | 64 | 0 | 4 | 4 | 1 |
| MARQUETTE | 34 | 24 | 41 | 19 | 29 | -1 | .4 | -.2 | .3 | 9.7 | 110 | 31.5 | 110 | 97 | 70 | 0 | 7 | 2 | 0 |
| MUSKEGON | 43 | 33 | 50 | 24 | 38 | 3 | 1.3 | .7 | .6 | 9.7 | 116 | 30.2 | 106 | 89 | 69 | 0 | 3 | 3 | 1 |
| SAULT ST. MARIE | 35 | 24 | 39 | 14 | 29 | 1 | .5 | -.2 | .5 | 9.4 | 97 | 26.9 | 88 | 93 | 69 | 0 | 7 | 1 | 1 |
| MN ALEXANDRIA | 36 | 22 | 44 | 15 | 29 | 5 | .2 | -.1 | .2 | 3.8 | 73 | 16.2 | 68 | 99 | 71 | 0 | 7 | 1 | 0 |
| DULUTH | 33 | 21 | 37 | 6 | 27 | 4 | T | -.4 | T | 4.6 | 66 | 18.5 | 66 | 99 | 72 | 0 | 7 | 1 | 0 |
| INT'L FALLS | 32 | 19 | 40 | 8 | 26 | 7 | 0 | -.3 | 0 | 2.7 | 45 | 19.2 | 83 | 91 | 70 | 0 | 7 | 0 | 0 |
| MINNEAPOLIS | 37 | 26 | 47 | 20 | 32 | 4 | 1.1 | .8 | 1.1 | 3.7 | 66 | 30.7 | 122 | 93 | 70 | 0 | 7 | 2 | 1 |
| ROCHESTER | 38 | 28 | 49 | 18 | 33 | 5 | .9 | .7 | .9 | 5.6 | 79 | 26.2 | 96 | 95 | 79 | 0 | 7 | 2 | 1 |
| MS GREENWOOD | 69 | 52 | 78 | 34 | 60 | 10 | 1.9 | .8 | 1.0 | 8.7 | 84 | 39.3 | 83 | 87 | 50 | 0 | 0 | 3 | 2 |
| JACKSON | 71 | 49 | 80 | 29 | 60 | 8 | 1.4 | .3 | .9 | 6.0 | 63 | 43.8 | 95 | 94 | 54 | 0 | 1 | 3 | 1 |
| MERIDIAN | 73 | 48 | 78 | 25 | 61 | 9 | 1.0 | 0 | .5 | 8.5 | 91 | 50.7 | 107 | 96 | 50 | 0 | 1 | 4 | 0 |
| MO CAPE GIRARDEAU | 59 | 45 | 64 | 33 | 52 | — | 2.3 | 1.4 | .6 | 9.3 | 96 | 34.7 | 86 | 92 | 69 | 0 | 0 | 5 | 3 |
| COLUMBIA | 46 | 36 | 60 | 33 | 41 | 1 | 2.8 | 2.3 | 1.4 | 7.9 | 86 | 28.1 | 81 | 93 | 74 | 0 | 0 | 5 | 1 |
| KANSAS CITY | 45 | 36 | 58 | 31 | 41 | 1 | .9 | .6 | .4 | 6.9 | 75 | 31.9 | 92 | 96 | 72 | 0 | 1 | 5 | 0 |
| SAINT LOUIS | 50 | 39 | 62 | 35 | 45 | 4 | 2.8 | 2.2 | 1.7 | 7.4 | 100 | 30.9 | 98 | 90 | 67 | 0 | 0 | 5 | 1 |
| SPRINGFIELD | 49 | 38 | 63 | 33 | 43 | 2 | 6.6 | 6.0 | 6.3 | 16.5 | 162 | 48.1 | 131 | 92 | 75 | 0 | 0 | 4 | 1 |
| MT BILLINGS | 44 | 26 | 48 | 20 | 35 | 3 | .1 | -.1 | .1 | 1.0 | 30 | 12.1 | 86 | 80 | 38 | 0 | 6 | 1 | 0 |
| GLASGOW | 43 | 22 | 48 | 14 | 32 | 8 | T | -.1 | T | .7 | 43 | 9.3 | 89 | 89 | 50 | 0 | 7 | 1 | 0 |
| GREAT FALLS | 45 | 27 | 49 | 22 | 36 | 5 | T | -.2 | T | 1.7 | 68 | 13.8 | 97 | 76 | 34 | 0 | 6 | 0 | 0 |
| HAVRE | 45 | 19 | 48 | 9 | 32 | 6 | 0 | -.1 | 0 | .8 | 38 | 7.8 | 70 | 87 | 43 | 0 | 7 | 0 | 0 |
| HELENA | 41 | 20 | 45 | 12 | 30 | 2 | 0 | -.1 | 0 | 1.0 | 47 | 9.6 | 89 | 82 | 40 | 0 | 7 | 0 | 0 |
| KALISPELL | 37 | 28 | 42 | 22 | 33 | 4 | .1 | -.3 | 0 | 1.1 | 34 | 13.9 | 99 | 96 | 71 | 0 | 6 | 2 | 0 |
| MILES CITY | 44 | 23 | 48 | 13 | 34 | 6 | T | -.1 | T | 1.0 | 37 | 12.1 | 89 | 83 | 47 | 0 | 7 | 1 | 0 |
| MISSOULA | 37 | 25 | 45 | 15 | 31 | 2 | .1 | -.2 | 0 | .4 | 14 | 9.1 | 77 | 95 | 62 | 0 | 6 | 3 | 0 |
| NE GRAND ISLAND | 40 | 28 | 55 | 22 | 34 | 0 | .6 | .5 | .4 | 3.2 | 74 | 25.0 | 112 | 96 | 71 | 0 | 7 | 4 | 0 |
| LINCOLN | 43 | 33 | 59 | 28 | 38 | 4 | .5 | .3 | .2 | 5.1 | 93 | 30.8 | 118 | 92 | 68 | 0 | 3 | 3 | 0 |
| NORFOLK | 40 | 27 | 50 | 23 | 33 | 2 | .4 | .2 | .2 | 5.4 | 133 | 27.6 | 121 | 96 | 69 | 0 | 7 | 2 | 0 |
| NORTH PLATTE | 38 | 27 | 52 | 23 | 33 | 2 | .3 | .2 | .3 | 4.1 | 134 | 19.6 | 104 | 96 | 72 | 0 | 7 | 2 | 0 |
| OMAHA | 42 | 32 | 56 | 29 | 37 | 2 | .6 | .3 | .3 | 4.2 | 62 | 31.8 | 108 | 89 | 73 | 0 | 4 | 3 | 0 |
| SCOTTSBLUFF | 44 | 22 | 52 | 17 | 33 | 1 | .1 | 0 | .1 | 2.5 | 110 | 22.7 | 162 | 93 | 50 | 0 | 7 | 1 | 0 |
| VALENTINE | 40 | 24 | 55 | 18 | 32 | 2 | T | -.1 | T | 1.4 | 52 | 19.3 | 116 | 90 | 62 | 0 | 7 | 0 | 0 |
| NV ELY | 40 | 13 | 49 | 5 | 27 | -4 | .1 | 0 | .1 | 3.1 | 170 | 11.7 | 144 | 91 | 45 | 0 | 7 | 1 | 0 |
| LAS VEGAS | 61 | 38 | 65 | 35 | 49 | -1 | 0 | -.1 | 0 | 2.3 | 239 | 5.7 | 156 | 65 | 26 | 0 | 0 | 0 | 0 |
| RENO | 49 | 21 | 59 | 16 | 35 | -2 | T | -.2 | T | .9 | 86 | 7.0 | 118 | 88 | 35 | 0 | 7 | 1 | 0 |
| WINNEMUCCA | 44 | 16 | 49 | 8 | 30 | -5 | T | -.2 | T | 1.4 | 89 | 8.4 | 123 | 91 | 44 | 0 | 7 | 2 | 0 |
| NH CONCORD | 42 | 21 | 59 | 14 | 32 | -2 | .5 | -.4 | .5 | 9.6 | 99 | 34.1 | 103 | 87 | 55 | 0 | 7 | 1 | 0 |
| NJ ATLANTIC CITY | 54 | 34 | 70 | 18 | 44 | 1 | .1 | -.8 | .1 | 7.3 | 78 | 38.2 | 101 | 89 | 54 | 0 | 2 | 1 | 0 |
| NM ALBUQUERQUE | 52 | 27 | 59 | 21 | 40 | -1 | 0 | -.1 | 0 | 1.1 | 53 | 8.0 | 109 | 68 | 28 | 0 | 7 | 0 | 0 |
| CLOVIS | 55 | 29 | 65 | 22 | 42 | -1 | T | -.1 | T | 4.1 | 99 | 22.8 | 139 | 62 | 24 | 0 | 6 | 0 | 0 |
| ROSWELL | 59 | 29 | 73 | 21 | 44 | 0 | T | -.1 | T | 1.5 | 48 | 14.6 | 144 | 71 | 27 | 0 | 5 | 0 | 0 |
| NY ALBANY | 45 | 28 | 56 | 14 | 36 | 1 | .1 | -.7 | .1 | 14.6 | 163 | 36.6 | 113 | 85 | 52 | 0 | 5 | 1 | 0 |
| BINGHAMTON | 44 | 27 | 55 | 13 | 36 | 1 | .1 | -.6 | 0 | 8.1 | 88 | 31.6 | 94 | 90 | 60 | 0 | 5 | 5 | 0 |
| BUFFALO | 44 | 33 | 53 | 16 | 38 | 2 | 1.2 | .3 | 1.1 | 10.8 | 113 | 37.7 | 112 | 85 | 61 | 0 | 3 | 3 | 1 |
| NEW YORK | 50 | 37 | 62 | 22 | 43 | 0 | T | -.9 | T | 9.2 | 90 | 40.8 | 106 | 79 | 54 | 0 | 2 | 1 | 0 |
| ROCHESTER | 43 | 31 | 52 | 13 | 37 | 0 | .4 | -.2 | .3 | 7.6 | 98 | 30.0 | 105 | 86 | 61 | 0 | 4 | 3 | 0 |
| SYRACUSE | 47 | 30 | 58 | 13 | 38 | 1 | .2 | -.6 | .1 | 10.6 | 110 | 30.1 | 85 | 86 | 56 | 0 | 4 | 3 | 0 |
| NC ASHEVILLE | 59 | 35 | 66 | 19 | 47 | 3 | .5 | -.3 | .2 | 10.2 | 104 | 41.0 | 101 | 95 | 60 | 0 | 3 | 3 | 0 |
| CHARLOTTE | 61 | 41 | 70 | 25 | 51 | 3 | 2.2 | 1.5 | 1.2 | 11.7 | 131 | 35.9 | 91 | 91 | 58 | 0 | 2 | 3 | 2 |
| GREENSBORO | 60 | 38 | 69 | 21 | 49 | 3 | 1.3 | .7 | .6 | 11.5 | 125 | 44.3 | 114 | 91 | 58 | 0 | 2 | 3 | 1 |
| HATTERAS | 65 | 46 | 75 | 27 | 56 | 2 | 1.3 | .2 | .9 | 12.0 | 80 | 56.9 | 112 | 96 | 57 | 0 | 2 | 4 | 1 |
| NEW BERN | 68 | 43 | 77 | 28 | 56 | 4 | .5 | -.3 | .5 | 6.0 | 50 | 47.6 | 97 | 92 | 50 | 0 | 2 | 1 | 0 |
| RALEIGH | 63 | 41 | 71 | 23 | 52 | 5 | .5 | -.2 | .3 | 8.6 | 100 | 39.1 | 102 | 87 | 58 | 0 | 2 | 3 | 0 |
| WILMINGTON | 68 | 45 | 77 | 27 | 57 | 4 | 2.5 | 1.7 | 1.3 | 11.3 | 97 | 48.6 | 98 | 94 | 53 | 0 | 2 | 3 | 2 |
| ND BISMARCK | 38 | 23 | 45 | 15 | 31 | 7 | T | -.1 | T | .4 | 16 | 17.1 | 117 | 94 | 64 | 0 | 7 | 0 | 0 |
| FARGO | 33 | 21 | 36 | 9 | 27 | 4 | T | -.2 | T | 2.7 | 70 | 14.7 | 78 | 95 | 76 | 0 | 7 | 0 | 0 |
| GRAND FORKS | 32 | 20 | 35 | 8 | 26 | 5 | T | -.2 | T | 2.2 | 55 | 18.2 | 103 | 95 | 79 | 0 | 7 | 1 | 0 |
| WILLISTON | 39 | 21 | 43 | 18 | 30 | 7 | T | -.1 | T | .9 | 37 | 11.6 | 90 | 93 | 66 | 0 | 7 | 0 | 0 |
| OH AKRON-CANTON | 51 | 34 | 64 | 14 | 42 | 5 | .6 | -.1 | .3 | 5.3 | 70 | 27.0 | 82 | 90 | 55 | 0 | 2 | 5 | 0 |
| CINCINNATI | 58 | 41 | 67 | 20 | 49 | 9 | 1.5 | .8 | .8 | 4.6 | 55 | 29.3 | 80 | 88 | 58 | 0 | 1 | 4 | 1 |
| CLEVELAND | 51 | 36 | 63 | 20 | 44 | 5 | .4 | -.3 | .3 | 6.4 | 81 | 35.0 | 108 | 90 | 59 | 0 | 1 | 3 | 0 |
| COLUMBUS | 56 | 39 | 66 | 18 | 47 | 8 | 1.1 | .4 | .4 | 4.7 | 67 | 23.9 | 70 | 90 | 55 | 0 | 1 | 5 | 0 |

Based on 1951-80 normals.

## Weather Data for the Week Ending November 28, 1987

| STATES AND STATIONS | TEMPERATURE °F | | | | | | PRECIPITATION | | | | | | | RELATIVE HUMIDITY, PERCENT | | NUMBER OF DAYS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | TEMPERATURE °F | | PRECIPITATION | |
| | AVERAGE MAXIMUM | AVERAGE MINIMUM | EXTREME HIGH | EXTREME LOW | AVERAGE | DEPARTURE FROM NORMAL | WEEKLY TOTAL, IN. | DEPARTURE FROM NORMAL | GREATEST IN 24-HOUR, IN. | TOTAL, IN., SINCE SEPT. 1 | PCT. NORMAL SINCE SEPT. 1 | TOTAL, IN., SINCE JAN. 1 | PCT. NORMAL SINCE JAN. 1 | AVERAGE MAXIMUM | AVERAGE MINIMUM | 90 AND ABOVE | 32 AND BELOW | .01 INCH OR MORE | .50 INCH OR MORE |
| DAYTON | 54 | 38 | 63 | 18 | 46 | 8 | 1.5 | .9 | .5 | 3.4 | 50 | 21.9 | 69 | 93 | 53 | 0 | 1 | 6 | 0 |
| TOLEDO | 49 | 35 | 57 | 20 | 42 | 6 | 1.9 | 1.3 | 1.4 | 7.0 | 106 | 26.9 | 94 | 93 | 65 | 0 | 1 | 5 | 1 |
| YOUNGSTOWN | 50 | 33 | 64 | 19 | 42 | 5 | .3 | -.3 | .2 | 7.4 | 89 | 35.2 | 103 | 90 | 59 | 0 | 4 | 4 | 0 |
| OK OKLAHOMA CITY | 53 | 39 | 68 | 31 | 46 | 1 | .7 | .4 | .5 | 8.3 | 109 | 40.8 | 138 | 97 | 65 | 0 | 1 | 2 | 1 |
| TULSA | 53 | 41 | 67 | 34 | 47 | 2 | 2.4 | 1.9 | 2.3 | 9.8 | 96 | 40.0 | 109 | 95 | 69 | 0 | 0 | 3 | 1 |
| OR ASTORIA | 53 | 37 | 56 | 28 | 45 | -1 | 1.1 | -1.5 | .5 | 5.2 | 28 | 37.9 | 66 | 95 | 65 | 0 | 1 | 2 | 2 |
| BURNS | 38 | 15 | 44 | 10 | 27 | -6 | T | -.3 | T | 1.1 | 42 | 9.1 | 94 | ** | ** | 0 | 7 | 1 | 0 |
| MEDFORD | 48 | 32 | 53 | 25 | 40 | -1 | .2 | -.5 | .2 | 1.6 | 32 | 11.0 | 69 | 98 | 64 | 0 | 4 | 2 | 0 |
| PENDLETON | 45 | 32 | 52 | 26 | 39 | 0 | .1 | -.3 | .1 | .8 | 27 | 6.4 | 62 | 87 | 58 | 0 | 4 | 2 | 0 |
| PORTLAND | 52 | 38 | 60 | 29 | 45 | 2 | .3 | -1.1 | .2 | 2.3 | 24 | 21.8 | 72 | 93 | 56 | 0 | 1 | 3 | 0 |
| SALEM | 49 | 36 | 53 | 30 | 43 | 0 | .7 | -.8 | .4 | 3.5 | 35 | 25.4 | 78 | 98 | 71 | 0 | 1 | 3 | 0 |
| PA ALLENTOWN | 48 | 30 | 60 | 18 | 39 | 0 | .1 | -.8 | .1 | 13.6 | 129 | 43.3 | 108 | 82 | 47 | 0 | 5 | 2 | 0 |
| ERIE | 49 | 34 | 62 | 23 | 42 | 4 | .5 | -.4 | .4 | 13.0 | 117 | 40.9 | 112 | 87 | 61 | 0 | 2 | 2 | 0 |
| HARRISBURG | 48 | 32 | 58 | 19 | 40 | -1 | .3 | -.5 | .2 | 13.4 | 144 | 35.1 | 98 | 93 | 60 | 0 | 3 | 2 | 0 |
| PHILADELPHIA | 53 | 35 | 65 | 20 | 44 | 2 | T | -.8 | T | 6.7 | 72 | 31.0 | 83 | 83 | 53 | 0 | 2 | 1 | 0 |
| PITTSBURGH | 53 | 36 | 67 | 16 | 45 | 7 | .4 | -.2 | .2 | 6.1 | 82 | 36.0 | 107 | 90 | 56 | 0 | 2 | 6 | 0 |
| SCRANTON | 47 | 29 | 57 | 15 | 38 | 1 | .1 | -.6 | .1 | 12.1 | 138 | 37.5 | 117 | 87 | 55 | 0 | 5 | 2 | 0 |
| RI PROVIDENCE | 47 | 29 | 62 | 16 | 38 | -2 | T | -1.0 | T | 12.1 | 109 | 37.3 | 92 | 82 | 50 | 0 | 4 | 1 | 0 |
| SC CHARLESTON | 69 | 50 | 75 | 30 | 59 | 5 | 1.1 | .6 | .4 | 18.8 | 191 | 54.6 | 113 | 98 | 58 | 0 | 1 | 4 | 0 |
| COLUMBIA | 67 | 40 | 76 | 24 | 54 | 2 | 2.6 | 2.0 | 1.9 | 10.8 | 118 | 52.6 | 116 | 97 | 60 | 0 | 2 | 3 | 2 |
| FLORENCE | 68 | 44 | 75 | 25 | 56 | 4 | .9 | .4 | .4 | 7.4 | 87 | 34.9 | 85 | 95 | 51 | 0 | 2 | 3 | 0 |
| GREENVILLE | 61 | 40 | 69 | 24 | 51 | 3 | .5 | -.3 | .3 | 6.4 | 58 | 40.1 | 86 | 95 | 64 | 0 | 2 | 3 | 0 |
| SD ABERDEEN | 36 | 25 | 41 | 19 | 30 | 5 | .1 | 0 | .1 | 2.3 | 77 | 12.2 | 71 | 97 | 75 | 0 | 7 | 1 | 0 |
| HURON | 39 | 24 | 45 | 20 | 31 | 4 | T | -.1 | T | 2.5 | 75 | 18.2 | 101 | 94 | 62 | 0 | 7 | 0 | 0 |
| RAPID CITY | 43 | 23 | 50 | 18 | 33 | 2 | T | -.1 | T | 1.3 | 55 | 12.1 | 78 | 92 | 50 | 0 | 7 | 0 | 0 |
| SIOUX FALLS | 42 | 23 | 52 | 20 | 33 | 5 | .6 | .4 | .5 | 3.7 | 71 | 16.9 | 73 | 97 | 61 | 0 | 7 | 3 | 0 |
| TN CHATTANOOGA | 66 | 42 | 71 | 23 | 54 | 8 | .4 | -.7 | .4 | 7.6 | 68 | 43.4 | 92 | 94 | 54 | 0 | 2 | 1 | 0 |
| KNOXVILLE | 68 | 38 | 74 | 20 | 53 | 7 | .1 | -.9 | .1 | 3.8 | 41 | 31.2 | 74 | 94 | 52 | 0 | 2 | 1 | 0 |
| MEMPHIS | 63 | 50 | 73 | 35 | 57 | 8 | 3.4 | 2.3 | 1.1 | 12.8 | 131 | 40.2 | 87 | 94 | 60 | 0 | 0 | 5 | 3 |
| NASHVILLE | 64 | 48 | 73 | 26 | 56 | 10 | 1.0 | .1 | .5 | 5.5 | 58 | 24.5 | 57 | 95 | 54 | 0 | 1 | 5 | 0 |
| TX ABILENE | 60 | 41 | 77 | 29 | 51 | 1 | T | -.2 | T | 3.5 | 53 | 22.5 | 101 | 90 | 51 | 0 | 2 | 2 | 0 |
| AMARILLO | 50 | 28 | 65 | 21 | 39 | -4 | T | -.1 | T | 5.0 | 137 | 20.2 | 110 | 86 | 47 | 0 | 6 | 2 | 0 |
| AUSTIN | 69 | 51 | 83 | 37 | 60 | 4 | 1.0 | .6 | .7 | 8.4 | 94 | 35.4 | 122 | 97 | 57 | 0 | 0 | 3 | 1 |
| BEAUMONT | 69 | 54 | 78 | 38 | 61 | 4 | 3.2 | 2.2 | 1.9 | 18.1 | 139 | 58.6 | 118 | 97 | 66 | 0 | 0 | 2 | 2 |
| BROWNSVILLE | 76 | 62 | 82 | 46 | 69 | 4 | 2.0 | 1.8 | 1.3 | 12.8 | 126 | 28.1 | 117 | 96 | 68 | 0 | 0 | 3 | 2 |
| CORPUS CHRISTI | 69 | 55 | 82 | 34 | 62 | -1 | .1 | -.2 | .1 | 4.2 | 39 | 29.8 | 100 | 97 | 67 | 0 | 0 | 4 | 0 |
| DEL RIO | 67 | 47 | 78 | 32 | 57 | 1 | .1 | 0 | .1 | .6 | 10 | 21.9 | 132 | 85 | 42 | 0 | 1 | 1 | 0 |
| EL PASO | 64 | 31 | 72 | 20 | 47 | -1 | 0 | -.1 | 0 | 1.3 | 55 | 8.0 | 112 | 63 | 19 | 0 | 5 | 0 | 0 |
| FORT WORTH | 62 | 48 | 78 | 36 | 55 | 3 | .6 | .2 | .4 | 5.3 | 63 | 23.9 | 82 | 93 | 64 | 0 | 0 | 3 | 0 |
| GALVESTON | 68 | 58 | 76 | 45 | 63 | 2 | 1.8 | 1.0 | 1.3 | 7.6 | 66 | 33.6 | 92 | 93 | 69 | 0 | 0 | 3 | 1 |
| HOUSTON | 70 | 52 | 80 | 36 | 61 | 3 | 1.8 | .9 | 1.3 | 6.6 | 54 | 35.8 | 85 | 96 | 61 | 0 | 0 | 2 | 1 |
| LUBBOCK | 57 | 31 | 71 | 22 | 44 | -1 | T | -.1 | T | 3.5 | 81 | 17.9 | 105 | 89 | 36 | 0 | 3 | 0 | 0 |
| MIDLAND | 62 | 30 | 76 | 18 | 46 | -3 | T | -.1 | T | 1.8 | 46 | 13.9 | 107 | 91 | 31 | 0 | 3 | 0 | 0 |
| SAN ANGELO | 64 | 39 | 78 | 23 | 52 | 0 | .1 | -.1 | .1 | 5.0 | 84 | 29.9 | 173 | 94 | 42 | 0 | 2 | 2 | 0 |
| SAN ANTONIO | 69 | 51 | 80 | 34 | 60 | 3 | 1.0 | .5 | .4 | 5.2 | 59 | 35.7 | 130 | 95 | 54 | 0 | 0 | 3 | 0 |
| VICTORIA | 69 | 54 | 82 | 39 | 62 | 2 | 4.3 | 3.8 | 3.7 | 9.5 | 81 | 41.2 | 119 | 99 | 65 | 0 | 0 | 3 | 2 |
| WACO | 66 | 49 | 80 | 33 | 57 | 3 | .8 | .3 | .6 | 11.3 | 136 | 31.8 | 111 | 95 | 64 | 0 | 0 | 2 | 1 |
| WICHITA FALLS | 60 | 42 | 76 | 31 | 51 | 2 | .3 | .1 | .3 | 4.0 | 54 | 29.9 | 118 | 92 | 55 | 0 | 1 | 2 | 0 |
| UT BLANDING | 43 | 21 | 48 | 15 | 32 | -3 | .2 | 0 | .1 | 5.7 | 180 | 19.2 | 185 | 93 | 53 | 0 | 7 | 2 | 0 |
| CEDAR CITY | 43 | 19 | 50 | 8 | 31 | -5 | .3 | .1 | .2 | 4.9 | 192 | 12.3 | 129 | 99 | 50 | 0 | 7 | 2 | 0 |
| SALT LAKE CITY | 42 | 26 | 45 | 22 | 34 | -2 | .1 | -.2 | .1 | 2.4 | 79 | 11.4 | 84 | 89 | 48 | 0 | 7 | 2 | 0 |
| VT BURLINGTON | 38 | 25 | 52 | 13 | 32 | -1 | .8 | .1 | .6 | 8.7 | 101 | 25.8 | 84 | 88 | 59 | 0 | 5 | 2 | 1 |
| VA NORFOLK | 62 | 43 | 71 | 28 | 53 | 4 | 1.9 | 1.3 | .8 | 12.1 | 117 | 42.2 | 101 | 84 | 56 | 0 | 2 | 3 | 2 |
| RICHMOND | 61 | 39 | 71 | 20 | 50 | 4 | .7 | 0 | .4 | 8.1 | 79 | 36.8 | 91 | 88 | 55 | 0 | 2 | 3 | 0 |
| ROANOKE | 59 | 37 | 70 | 23 | 48 | 5 | 2.3 | 1.7 | 1.4 | 16.6 | 185 | 48.9 | 136 | 89 | 57 | 0 | 2 | 2 | 2 |
| WA QUILLAYUTE | 52 | 36 | 56 | 27 | 44 | 1 | 2.9 | -.5 | 1.5 | 12.6 | 44 | 67.4 | 77 | 99 | 68 | 0 | 2 | 3 | 3 |
| SEATTLE-TACOMA | 50 | 39 | 55 | 31 | 45 | 2 | .4 | -1.0 | .2 | 4.2 | 40 | 23.7 | 75 | 94 | 63 | 0 | 1 | 3 | 0 |
| SPOKANE | 37 | 27 | 42 | 20 | 32 | 0 | .2 | -.3 | .1 | 1.2 | 33 | 12.5 | 90 | 98 | 70 | 0 | 6 | 2 | 0 |
| YAKIMA | 48 | 23 | 55 | 18 | 36 | 1 | 0 | -.3 | 0 | .5 | 32 | 4.8 | 75 | 93 | 49 | 0 | 6 | 0 | 0 |
| WV BECKLEY | 57 | 38 | 64 | 11 | 48 | 9 | .1 | -.6 | .1 | 5.7 | 63 | 34.2 | 88 | 79 | 44 | 0 | 2 | 1 | 0 |
| CHARLESTON | 62 | 40 | 72 | 16 | 51 | 9 | .1 | -.6 | .1 | 7.4 | 89 | 33.0 | 85 | 89 | 38 | 0 | 2 | 2 | 0 |
| HUNTINGTON | 61 | 40 | 71 | 17 | 51 | 8 | .4 | -.3 | .4 | 5.2 | 65 | 28.7 | 77 | 88 | 44 | 0 | 2 | 4 | 0 |
| PARKERSBURG | 59 | 41 | 70 | 15 | 50 | 8 | .3 | -.3 | .2 | 4.8 | 64 | 22.5 | 65 | 96 | 54 | 0 | 1 | 4 | 0 |
| WI GREEN BAY | 39 | 31 | 45 | 23 | 35 | 5 | 1.0 | .6 | .4 | 6.0 | 88 | 20.8 | 79 | 97 | 80 | 0 | 4 | 3 | 0 |
| LACROSSE | 41 | 33 | 50 | 31 | 37 | 7 | 1.0 | .7 | .8 | 5.0 | 72 | 31.4 | 109 | 89 | 73 | 0 | 2 | 4 | 1 |
| MADISON | 41 | 33 | 50 | 27 | 37 | 6 | 1.5 | 1.1 | 1.0 | 8.0 | 115 | 29.2 | 101 | 93 | 74 | 0 | 2 | 7 | 1 |
| MILWAUKEE | 45 | 35 | 53 | 25 | 40 | 7 | 1.8 | 1.4 | .9 | 6.0 | 86 | 33.7 | 118 | 99 | 77 | 0 | 2 | 6 | 1 |
| WAUSAU | 37 | 28 | 42 | 20 | 33 | 6 | .5 | .2 | .3 | 7.8 | 99 | 24.3 | 80 | 96 | 75 | 0 | 5 | 2 | 0 |
| WY CASPER | 37 | 20 | 40 | 12 | 29 | -1 | T | -.1 | T | 1.9 | 87 | 12.5 | 117 | 91 | 48 | 0 | 7 | 1 | 0 |
| CHEYENNE | 37 | 20 | 46 | 10 | 28 | -4 | .2 | 0 | .1 | 2.0 | 88 | 14.4 | 112 | 87 | 47 | 0 | 7 | 2 | 0 |
| LANDER | 30 | 11 | 36 | 2 | 21 | -6 | .2 | .1 | .2 | 2.5 | 90 | 14.4 | 116 | 93 | 61 | 0 | 7 | 2 | 0 |
| SHERIDAN | 42 | 21 | 48 | 16 | 31 | 2 | T | -.1 | T | 3.1 | 101 | 13.9 | 98 | 92 | 52 | 0 | 7 | 1 | 0 |
| PR SAN JUAN | 82 | 73 | 88 | 71 | 78 | -1 | 7.5 | 6.1 | 2.4 | 13.4 | 78 | 55.4 | 112 | 95 | 80 | 0 | 0 | 6 | 5 |

Based on 1951-80 normals.

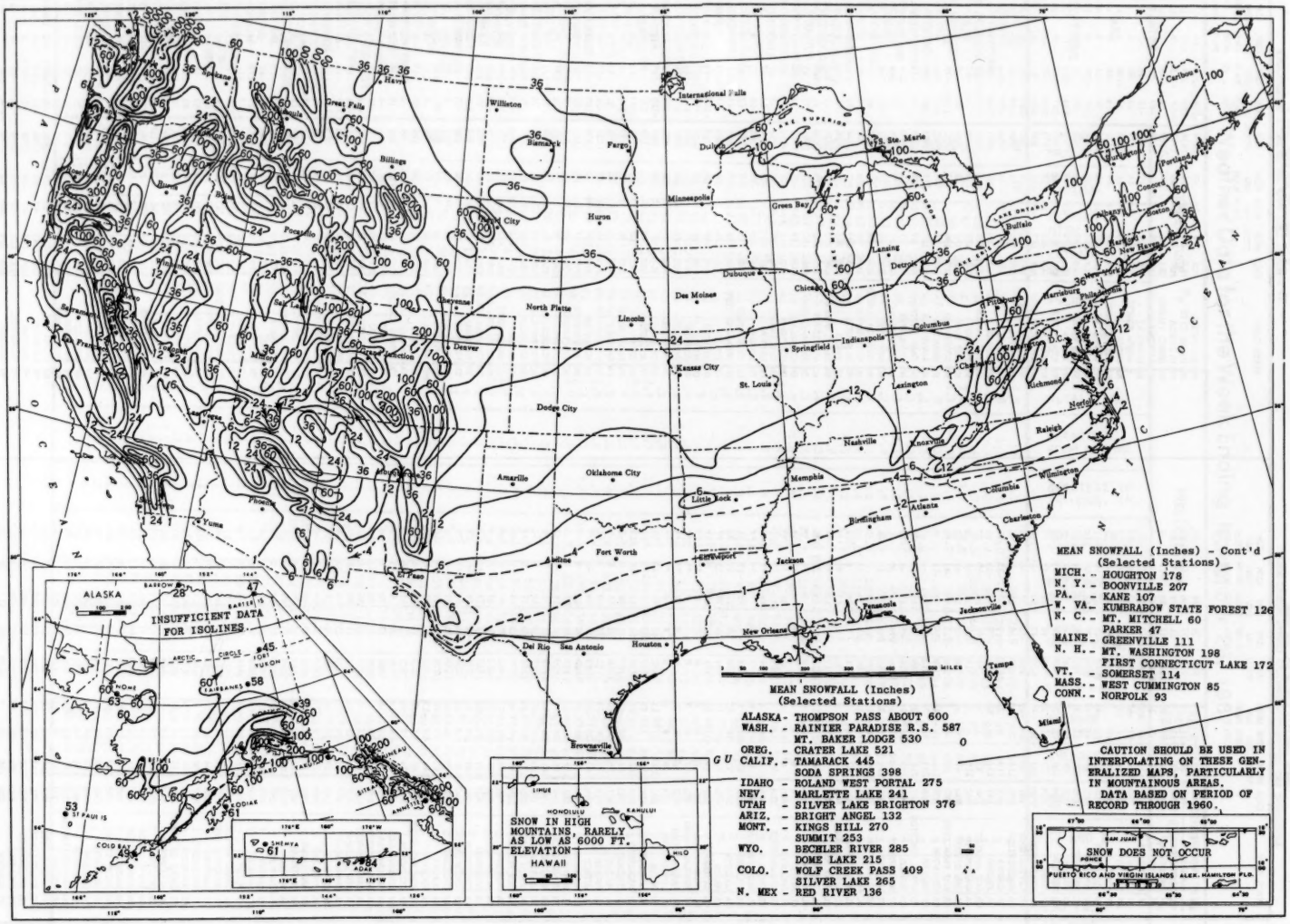
# Heating Degree Days Summary

CLIMATE ANALYSIS CENTER-NMC-NWS-NOAA
ASSESSMENT AND INFORMATION SERVICES CENTER-NESDIS-NOAA

LAST DATE OF DATA COLLECTION PERIOD IS 11-28-1987
ACCUMULATIONS ARE FROM JULY 1
** = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

| STATE CITY | CALL | WEEK TOTAL | WEEK DEV FROM NORM | WEEK DEV FROM L YR | CUM TOTAL | CUM DEV FROM NORM | CUM DEV FROM L YR | CUM DEV FROM NORM PRCT | CUM DEV FROM L YR PRCT |
|---|---|---|---|---|---|---|---|---|---|
| AL BIRMINGHAM | BHM | 47 | -62 | -9 | 526 | 28 | 194 | 6 | 58 |
| AL MOBILE | MOB | 30 | -31 | -3 | 276 | 27 | 136 | 11 | 97 |
| AL MONTGOMERY | MGM | 46 | -42 | 4 | 387 | 21 | 174 | 6 | 82 |
| AK ANCHORAGE | ANC | 258 | -69 | -108 | 2805 | -331 | -99 | -11 | -3 |
| AK BARROW | BRW | 566 | 71 | 11 | 5899 | -188 | 333 | -3 | 6 |
| AK FAIRBANKS | FAI | 439 | -28 | -150 | 3467 | -482 | -435 | -12 | -11 |
| AK JUNEAU | JNU | 159 | -83 | -67 | 2191 | -511 | -332 | -19 | -13 |
| AK KODIAK | ADQ | 244 | 17 | -27 | 2582 | -122 | 85 | -5 | 3 |
| AK NOME | OME | 420 | 49 | 9 | 3917 | -182 | 74 | -4 | 2 |
| AZ FLAGSTAFF | FLG | 243 | 22 | 46 | 1642 | -45 | -208 | -3 | -11 |
| AZ PHOENIX | PHX | 49 | -4 | 26 | 77 | -77 | 41 | -50 | 114 |
| AZ PRESCOTT | PRC | 178 | 11 | 31 | 726 | -226 | -275 | -24 | -27 |
| AZ TUCSON | TUS | 75 | 10 | 7 | 154 | -58 | 7 | -27 | 5 |
| AZ WINSLOW | INW | 196 | 13 | 23 | 769 | -120 | -213 | -13 | -22 |
| AZ YUMA | YUM | 32 | 1 | 20 | 42 | -46 | 27 | ** | ** |
| AR FORT SMITH | FSM | 102 | -28 | -31 | 525 | -47 | -59 | -8 | -10 |
| AR LITTLE ROCK | LMI | 90 | -29 | -40 | 488 | -31 | -51 | -6 | -9 |
| CA BAKERSFIELD | BFL | 114 | 29 | 40 | 307 | 16 | 24 | 5 | 8 |
| CA EUREKA | EKA | 110 | 8 | 34 | 1071 | -409 | -200 | -28 | -16 |
| CA FRESNO | FAT | 134 | 26 | 60 | 334 | -78 | 93 | -19 | 39 |
| CA LOS ANGELES | LAX | 43 | 1 | 39 | 99 | -140 | 36 | -59 | 57 |
| CA SACRAMENTO | SAC | 115 | 9 | 36 | 315 | -99 | -18 | -24 | -5 |
| CA SAN DIEGO | SAN | 42 | 8 | 26 | 78 | 8 | 12 | -47 | 18 |
| CA SAN FRANCISCO | SFO | 83 | -4 | 6 | 396 | -312 | -185 | -44 | -32 |
| CA STOCKTON | SCK | 123 | 18 | 45 | 339 | -56 | 8 | -14 | 2 |
| CO DENVER | DEN | 233 | 28 | 76 | 1219 | -66 | -119 | -5 | -9 |
| CO GRAND JUNCTION | GJT | 218 | 9 | 35 | 969 | -120 | -245 | -11 | -20 |
| CO PUEBLO | PUB | 233 | 36 | 63 | 1076 | -45 | -133 | -4 | -11 |
| CT BRIDGEPORT | BDR | 174 | 12 | 24 | 1039 | 170 | 14 | 20 | 1 |
| CT HARTFORD | BDL | 198 | 7 | 21 | 1282 | 138 | -75 | 12 | -6 |
| DE WILMINGTON | ILG | 144 | -16 | -10 | 908 | 57 | 12 | 7 | 1 |
| DC WASHINGTON | DCA | 124 | -14 | -11 | 758 | 101 | 29 | 15 | 4 |
| FL APALACHICOLA | AQQ | 22 | -26 | 11 | 171 | 7 | 124 | 4 | 264 |
| FL DAYTONA BEACH | DAB | 12 | -17 | 8 | 75 | 2 | 67 | ** | ** |
| FL FORT MEYER | FMY | 2 | -7 | 2 | 12 | -9 | 12 | ** | ** |
| FL JACKSONVILLE | JAX | 26 | -27 | 17 | 215 | 43 | 149 | 25 | 226 |
| FL KEY WEST | EYW | 0 | 0 | 0 | 0 | 0 | 0 | ** | ** |
| FL MIAMI | MIA | 0 | -3 | 0 | 3 | 0 | 3 | ** | ** |
| FL ORLANDO | MCO | 6 | -12 | 6 | 36 | -6 | 36 | ** | ** |
| FL TALLAHASSEE | TLH | 31 | -32 | 9 | 269 | 42 | 152 | 19 | 130 |
| FL TAMPA | TPA | 7 | -14 | 7 | 49 | -8 | 49 | ** | ** |
| FL WEST PALM BEACH | PBI | 0 | -7 | 0 | 7 | 0 | 7 | ** | ** |
| GA ATLANTA | ATL | 67 | -44 | 0 | 424 | -74 | 78 | -15 | 23 |
| GA AUGUSTA | AGS | 59 | -38 | 23 | 478 | 55 | 227 | 13 | 93 |
| GA MACON | MCN | 54 | -33 | 14 | 424 | 65 | 178 | 18 | 72 |
| GA SAVANNAH | SAV | 39 | -32 | 20 | 293 | 17 | 146 | 6 | 99 |
| HI HILO-HAWAII | ITO | 0 | 0 | 0 | 0 | 0 | 0 | ** | ** |
| HI HONOLULU-OAHU | HNL | 0 | 0 | 0 | 0 | 0 | 0 | ** | ** |
| HI KAHULUI-MAUI | OGG | 0 | 0 | 0 | 0 | 0 | 0 | ** | ** |
| HI LIHUE-KAUAI | LIH | 0 | 0 | 0 | 0 | 0 | 0 | ** | ** |
| ID BOISE | BOI | 216 | 17 | 51 | 1081 | -182 | -246 | -14 | -19 |
| ID LEWISTON | LWS | 193 | 1 | 49 | 937 | -313 | -270 | -25 | -22 |
| ID POCATELLO | PIH | 250 | 17 | 64 | 1426 | -164 | -242 | -10 | -15 |
| IL CHICAGO | ORD | 158 | -48 | -42 | 1209 | 64 | -40 | 6 | -3 |
| IL MOLINE | MLI | 175 | -38 | -19 | 1216 | 52 | -64 | 4 | -5 |
| IL PEORIA | PIA | 172 | -34 | -26 | 1155 | 31 | -10 | 3 | -1 |
| IL QUINCY | UIN | 167 | -26 | -29 | 1003 | -12 | -94 | -1 | -9 |
| IL ROCKFORD | RFD | 178 | -46 | -39 | 1400 | 98 | -22 | 8 | -2 |
| IL SPRINGFIELD | SPI | 156 | -33 | -29 | 995 | 10 | -86 | 1 | -8 |
| IN EVANSVILLE | EVV | 95 | -68 | -58 | 839 | -6 | -16 | -1 | -2 |
| IN FORT WAYNE | FWA | 161 | -41 | -35 | 1239 | 64 | -1 | 5 | 0 |
| IN INDIANAPOLIS | IND | 129 | -60 | -49 | 1067 | 36 | -10 | 3 | -1 |
| IN SOUTH BEND | SBN | 173 | -27 | -25 | 1264 | 92 | -49 | 8 | -4 |
| IA DES MOINES | DSM | 192 | -26 | -6 | 1176 | 13 | -164 | 1 | -12 |
| IA DUBUQUE | DBQ | 196 | -40 | -42 | 1462 | 55 | -95 | 4 | -6 |
| IA SIOUX CITY | SUX | 204 | -29 | 15 | 1311 | 22 | -120 | 2 | -8 |
| IA WATERLOO | ALO | 194 | -48 | -62 | 1417 | -39 | -174 | -3 | -11 |
| KS CONCORDIA | CNK | 182 | -14 | 23 | 938 | -62 | -148 | -6 | -14 |
| KS DODGE CITY | DDC | 184 | 0 | 23 | 852 | -61 | -155 | -7 | -15 |
| KS GOODLAND | GLD | 229 | 16 | 68 | 1158 | -94 | -22 | -8 | -2 |
| KS TOPEKA | TOP | 161 | -23 | -26 | 874 | -82 | -169 | -9 | -16 |
| KS WICHITA | ICT | 163 | -18 | -17 | 760 | -67 | -201 | -8 | -21 |
| KY BOWLING GREEN | BWG | 86 | -66 | -42 | 819 | 33 | 65 | 4 | 9 |
| KY LEXINGTON | LEX | 84 | -79 | -59 | 822 | -57 | -15 | -6 | -2 |
| KY LOUISVILLE | SDF | 90 | -64 | -52 | 774 | -29 | 6 | -4 | 1 |
| LA ALEXANDRIA | AEX | 34 | -38 | -16 | 304 | 17 | 79 | 6 | 35 |
| LA BATON ROUGE | BTR | 28 | -35 | -5 | 214 | -31 | 86 | -13 | 67 |
| LA LAKE CHARLES | LCH | 38 | -23 | 0 | 193 | -38 | 56 | -16 | 41 |
| LA NEW ORLEANS | MSY | 23 | -33 | -2 | 188 | -11 | 85 | -6 | 90 |
| LA SHREVEPORT | SHV | 60 | -25 | -31 | 320 | -23 | -28 | -7 | -8 |
| ME CARIBOU | CAR | 289 | 17 | -4 | 2160 | -1 | -315 | 0 | -13 |
| ME PORTLAND | PWM | 219 | 6 | 27 | 1559 | 34 | -106 | 2 | -6 |
| MD BALTIMORE | BWI | 137 | -17 | -15 | 916 | 113 | 63 | 14 | 7 |
| MD SALISBURY | SBY | 120 | -22 | 1 | 811 | 62 | 76 | 8 | 10 |
| MA BOSTON | BOS | 184 | 20 | 39 | 1008 | 49 | -108 | 5 | -10 |
| MA CHATHAM | CHH | 174 | 13 | 26 | 1088 | 22 | -118 | 2 | -2 |
| MI ALPENA | APN | 218 | -19 | 13 | 1714 | -64 | -156 | -4 | -8 |
| MI DETROIT | DTW | 170 | -36 | -29 | 1278 | 26 | 7 | 2 | 1 |
| MI FLINT | FNT | 181 | -29 | -16 | 1448 | 81 | -5 | 6 | 0 |
| MI GRAND RAPIDS | GRR | 191 | -22 | -10 | 1455 | 120 | -30 | 9 | -2 |
| MI HOUGHTON LAKE | HTL | 220 | -20 | 10 | 1665 | -100 | -115 | -6 | -6 |
| MI LANSING | LAN | 184 | -29 | -20 | 1461 | 108 | -49 | 8 | -3 |
| MI MARQUETTE | MQT | 250 | -26 | 2 | 2180 | 35 | -219 | 2 | -9 |
| MI MUSKEGON | MKG | 188 | -19 | 0 | 1487 | 79 | -65 | 6 | -4 |
| MI SAULT ST MARIE | SSM | 248 | -8 | 34 | 1983 | -47 | -152 | -2 | -7 |
| MN ALEXANDRIA | AXN | 249 | -40 | 11 | 1666 | -183 | -328 | -10 | -16 |
| MN DULUTH | DLH | 266 | -27 | 32 | 2049 | -132 | -347 | -6 | -14 |
| MN INT'L FALLS | INL | 274 | -48 | 22 | 2166 | -177 | -359 | -8 | -14 |
| MN MINNEAPOLIS | MSP | 231 | -26 | 7 | 1500 | -50 | -237 | -3 | -14 |
| MN ROCHESTER | RST | 222 | -40 | 26 | 1786 | 67 | -189 | 4 | -10 |
| MN SAINT CLOUD | STC | 249 | -35 | 18 | 1753 | -86 | -251 | -5 | -13 |
| MS GREENWOOD | GWO | 40 | -61 | -35 | 420 | -46 | 96 | -10 | 30 |
| MS JACKSON | JAN | 42 | -46 | -15 | 394 | 7 | 144 | 2 | 58 |
| MS MERIDIAN | MEI | 38 | -56 | -19 | 459 | 29 | 178 | 7 | 63 |
| MO CAPE GIRARDEAU | CGI | 91 | -65 | -56 | 696 | -59 | -40 | -8 | -5 |
| MO COLUMBIA | COU | 168 | -9 | -13 | 938 | 25 | -68 | 3 | -6 |
| MO KANSAS CITY | MCI | 166 | -16 | -22 | 923 | 22 | -127 | 2 | -12 |
| MO SAINT LOUIS | STL | 141 | -28 | -21 | 791 | -68 | -103 | -8 | -12 |
| MO SPRINGFIELD | SGF | 150 | -14 | -13 | 885 | 53 | -49 | 6 | -5 |
| MT BILLINGS | BIL | 209 | -25 | 43 | 1351 | -220 | -350 | -14 | -21 |
| MT GLASGOW | GGW | 226 | -58 | 7 | 1609 | -302 | -412 | -16 | -20 |
| MT GREAT FALLS | GTF | 201 | -40 | 34 | 1583 | -171 | -282 | -10 | -15 |
| MT HAVRE | HVR | 231 | -46 | 47 | 1802 | -130 | -336 | -7 | -16 |
| MT HELENA | HLN | 239 | -19 | 47 | 1691 | -279 | -406 | -14 | -19 |
| MT KALISPELL | FCA | 224 | -33 | 18 | 1964 | -220 | -252 | -10 | -11 |
| MT MILES CITY | MLS | 217 | -44 | 34 | 1436 | -249 | -329 | -15 | -19 |
| MT MISSOULA | MSO | 235 | -18 | 36 | 1797 | -168 | -211 | -9 | -11 |
| NE GRAND ISLAND | GRI | 218 | -4 | 49 | 1288 | 12 | -29 | 1 | -2 |
| NE LINCOLN | LNK | 185 | -32 | 3 | 1129 | -49 | -92 | -4 | -8 |
| NE NORFOLK | OFK | 222 | -13 | 45 | 1364 | -10 | -49 | -1 | -3 |
| E NORTH PLATTE | LBF | 224 | -14 | 44 | 1474 | 12 | 88 | 1 | 6 |
| NE OMAHA | ONA | 195 | -15 | 11 | 1150 | 34 | -136 | 3 | -11 |
| NE SCOTTSBLUFF | BFF | 222 | -6 | 49 | 1436 | -14 | -48 | -1 | -3 |
| NE VALENTINE | VTN | 227 | -18 | 48 | 1554 | 34 | -84 | 2 | -5 |
| NV ELY | ELY | 267 | 27 | 52 | 1616 | -167 | -255 | -9 | -14 |
| NV LAS VEGAS | LAS | 108 | 3 | 20 | 320 | -56 | 10 | -15 | 3 |
| NV RENO | RNO | 208 | 10 | 65 | 972 | -434 | -319 | -31 | -25 |
| NV WINNEMUCCA | WMC | 245 | 33 | 69 | 1209 | -287 | -327 | -19 | -21 |
| NH CONCORD | CON | 233 | 11 | 13 | 1693 | 160 | -78 | 10 | -4 |
| NJ ATLANTIC CITY | ACY | 143 | -16 | -10 | 998 | 140 | 61 | 16 | 7 |
| NM ALBUQUERQUE | ABQ | 176 | 3 | -4 | 665 | -167 | -322 | -20 | -33 |
| NM CLOVIS | CVS | 161 | 8 | -4 | 609 | -169 | -195 | -22 | -24 |
| NM ROSWELL | ROW | 148 | 14 | -4 | 490 | -99 | -214 | -17 | -30 |
| NY ALBANY | ALB | 199 | -9 | -1 | 1487 | 160 | -65 | 12 | -4 |
| NY BINGHAMTON | BGM | 204 | -12 | 12 | 1603 | 135 | 55 | 9 | 4 |
| NY BUFFALO | BUF | 183 | -16 | 8 | 1298 | 14 | -87 | 1 | -6 |
| NY NEW YORK | LGA | 152 | 2 | 28 | 838 | 67 | 36 | 9 | 4 |
| NY ROCHESTER | ROC | 196 | -1 | 12 | 1427 | 172 | -79 | 14 | -5 |
| NY SYRACUSE | SYR | 186 | -12 | -3 | 1382 | 117 | -89 | 9 | -6 |
| NC ASHEVILLE | AVL | 125 | -23 | 24 | 1003 | 148 | 289 | 17 | 40 |
| NC CAPE HATTERAS | HAT | 67 | -14 | 41 | 338 | 12 | 172 | 4 | 104 |
| NC CHARLOTTE | CLT | 97 | -24 | 12 | 579 | 11 | 114 | 2 | 25 |
| NC GREENSBORO | GSO | 111 | -24 | 7 | 759 | 73 | 149 | 11 | 24 |
| NC NEW BERN | EWN | 64 | -31 | 13 | 381 | -51 | 104 | -12 | 38 |
| NC RALEIGH DURHAM | RDU | 88 | -37 | 3 | 654 | 46 | 137 | 8 | 26 |
| NC WILMINGTON | ILM | 59 | -26 | 16 | 364 | 2 | 107 | 1 | 42 |
| ND BISMARCK | BIS | 237 | -52 | 9 | 1840 | -80 | -281 | -4 | -13 |
| ND FARGO | FAR | 265 | -31 | 20 | 1806 | -81 | -308 | -4 | -15 |
| ND GRAND FORKS | GFK | 272 | -38 | 11 | 1931 | -143 | -287 | -7 | -13 |
| ND WILLISTON | ISN | 242 | -53 | 11 | 1838 | -171 | -409 | -9 | -18 |
| OH AKRON-CANTON | CAK | 157 | -36 | -28 | 1243 | 72 | 43 | 6 | 4 |
| OH CLEVELAND | CLE | 148 | -40 | -26 | 1178 | 38 | 54 | 3 | 5 |
| OH COLUMBUS | CMH | 124 | -60 | -47 | 1043 | -25 | 22 | -2 | 2 |
| OH CINCINNATI | CVG | 108 | -67 | -58 | 992 | 28 | 27 | 3 | 3 |
| OH DAYTON | DAY | 131 | -55 | -46 | 1070 | 27 | -7 | 3 | -1 |
| OH TOLEDO | TOL | 158 | -49 | -42 | 1306 | 50 | 13 | 4 | 1 |
| OH YOUNGSTOWN | YNG | 161 | -38 | -7 | 1336 | 63 | 47 | 5 | 4 |
| OK OKLAHOMA CITY | OKC | 130 | -9 | -19 | 559 | -44 | -148 | -7 | -21 |
| OK TULSA | TUL | 125 | -10 | -36 | 559 | -37 | -188 | -6 | -25 |
| OR ASTORIA | AST | 140 | 0 | 25 | 1220 | -167 | -94 | -12 | -7 |
| OR BURNS | 4BW | 226 | -4 | 59 | 1539 | -88 | -277 | -5 | -15 |
| OR MEDFORD | MFR | 172 | 4 | 21 | 665 | -379 | -360 | -36 | -35 |
| OR PENDLETON | PDT | 182 | -2 | 50 | 1043 | -162 | -154 | -13 | -13 |
| OR PORTLAND | PDX | 135 | -16 | 15 | 704 | -366 | -174 | -34 | -20 |
| OR SALEM | SLE | 157 | 2 | 29 | 909 | -268 | -185 | -23 | -17 |
| PA ALLENTOWN | ABE | 179 | -4 | -2 | 1199 | 122 | -8 | 11 | -1 |
| PA ERIE | ERI | 162 | -33 | -1 | 1162 | -103 | -13 | -8 | -1 |
| PA HARRISBURG | CXY | 176 | 4 | 3 | 1133 | 173 | -4 | 18 | 0 |
| PA PHILADELPHIA | PHL | 145 | -13 | -4 | 885 | 52 | 12 | 6 | 1 |
| PA PITTSBURGH | PIT | 140 | -48 | -31 | 1137 | -14 | -17 | -1 | -1 |
| PA SCRANTON | AVP | 186 | -8 | 3 | 1378 | 148 | -23 | 12 | -2 |
| RI PROVIDENCE | PVD | 187 | 11 | 27 | 1143 | 83 | -48 | 8 | -4 |
| SC CHARLESTON | CHS | 43 | -33 | 24 | 314 | 0 | 135 | 0 | 75 |
| SC COLUMBIA | CAE | 78 | -18 | 35 | 543 | 111 | 233 | 26 | 75 |
| SC FLORENCE | FLO | 61 | -29 | 25 | 418 | 25 | 132 | 6 | 46 |
| SC GREENVILLE | GSP | 97 | -21 | 6 | 634 | 78 | 127 | 14 | 25 |
| SD ABERDEEN | ABR | 241 | -38 | 29 | 1695 | -28 | -228 | -2 | -12 |
| SD HURON | HON | 232 | -32 | 31 | 1568 | -52 | -204 | -3 | -12 |
| SD RAPID CITY | RAP | 223 | -14 | 44 | 1396 | -156 | -349 | -10 | -20 |
| SD SIOUX FALLS | FSD | 226 | -31 | 22 | 1539 | -20 | -211 | -1 | -12 |
| TN CHATTANOOGA | CHA | 73 | -60 | -10 | 669 | 25 | 225 | 4 | 51 |
| TN KNOXVILLE | TYS | 82 | -51 | -14 | 799 | 138 | 249 | 21 | 45 |
| TN MEMPHIS | MEM | 58 | -59 | -51 | 470 | -55 | -11 | -10 | -2 |
| TN NASHVILLE | BNA | 62 | -74 | -47 | 657 | -6 | 67 | -1 | 11 |
| TX ABILENE | ABI | 98 | -5 | -35 | 344 | -81 | -152 | -19 | -31 |
| TX AMARILLO | AMA | 184 | 24 | 13 | 775 | -8 | -171 | -1 | -18 |
| TX AUSTIN | AUS | 54 | -11 | -24 | 189 | -49 | -19 | -21 | -9 |
| TX BROWNSVILLE | BRO | 13 | -5 | -31 | 45 | -4 | -68 | ** | ** |
| TX CORPUS CHRISTI | CRP | 41 | 6 | -11 | 101 | -16 | -30 | -14 | -23 |
| TX DEL RIO | DRT | 55 | -6 | -28 | 206 | -4 | -8 | -2 | -4 |
| TX EL PASO | ELP | 122 | 4 | -22 | 371 | -97 | -165 | -21 | -31 |
| TX FORT WORTH | DFW | 78 | -16 | -45 | 315 | -32 | -87 | -4 | -22 |
| TX GALVESTON | GLS | 30 | -12 | -12 | 93 | -44 | -10 | -32 | -10 |
| TX HOUSTON | IAH | 41 | -18 | -23 | 170 | -49 | -10 | -22 | -6 |
| TX LUBBOCK | LBB | 144 | 7 | -1 | 507 | -116 | -191 | -19 | -27 |
| TX MIDLAND ODESSA | MAF | 133 | 24 | 8 | 422 | -33 | -118 | -7 | -22 |
| TX BEAUMONT | BPT | 39 | -17 | -6 | 179 | -28 | 41 | -14 | 30 |
| TX SAN ANGELO | SJT | 92 | -2 | -27 | 362 | -11 | -68 | -3 | -16 |
| TX SAN ANTONIO | SAT | 50 | -8 | -31 | 170 | -52 | -26 | -23 | -13 |
| TX VICTORIA | VCT | 39 | -5 | -20 | 128 | -28 | -27 | -18 | -17 |
| TX WACO | ACT | 63 | -16 | -35 | 280 | -7 | -44 | -2 | -14 |
| TX WICHITA FALLS | SPS | 99 | -16 | -37 | 415 | -67 | -133 | -14 | -24 |
| UT BLANDING | 4BL | 228 | 16 | 35 | 1086 | -167 | -333 | -13 | -23 |
| UT CEDAR CITY | CDC | 238 | 33 | 33 | 1073 | -159 | -370 | -13 | -26 |
| UT SALT LAKE CITY | SLC | 216 | 13 | 36 | 961 | -210 | -327 | -18 | -25 |
| VT BURLINGTON | BTV | 231 | 13 | 46 | 1654 | 67 | -67 | 4 | -3 |
| VA LYNCHBURG | LYH | 123 | -24 | -5 | 834 | 49 | 40 | 6 | 5 |
| VA NORFOLK | ORF | 85 | -27 | 8 | 556 | 43 | 166 | 8 | 43 |
| VA RICHMOND | RIC | 107 | -26 | -10 | 765 | 70 | 100 | 11 | 15 |
| VA ROANOKE | ROA | 115 | -32 | -12 | 852 | 49 | 84 | 6 | 11 |
| WA COLVILLE | 63S | 237 | -1 | 67 | 1444 | -348 | -185 | -19 | -11 |
| WA QUILLAYUTE | UIL | 144 | -14 | 2 | 1406 | -273 | -186 | -16 | -12 |
| WA SEATTLE-TACOMA | SEA | 141 | -13 | 5 | 913 | -379 | -238 | -29 | -21 |
| WA SPOKANE | GEG | 229 | 0 | 43 | 1406 | -257 | -300 | -15 | -18 |
| WA WALLA WALLA | ALW | 171 | -3 | 47 | 939 | -115 | -194 | -11 | -10 |
| WA YAKIMA | YKM | 203 | -4 | 30 | 1261 | -173 | -189 | -12 | -13 |
| WV BECKLEY | BKW | 120 | -60 | -15 | 1115 | -47 | 75 | -4 | 7 |
| WV CHARLESTON | CRW | 95 | -64 | -36 | 921 | 25 | 100 | 3 | 12 |
| WV HUNTINGTON | HTS | 99 | -57 | -42 | 879 | -10 | 71 | -1 | 9 |
| WV PARKERSBURG | PKB | 105 | -59 | -56 | 965 | 50 | 25 | 5 | 3 |
| WI GREEN BAY | GRB | 212 | -35 | -23 | 1629 | 16 | -144 | 1 | -8 |
| WI LACROSSE | LSE | 193 | -49 | -27 | 1396 | -33 | -163 | -2 | -10 |
| WI MADISON | MSN | 194 | -47 | -29 | 1550 | 31 | -78 | 2 | -5 |
| WI MILWAUKEE | MKE | 172 | -51 | -29 | 1344 | -22 | -43 | -2 | -3 |
| WI WAUSAU | AUW | 224 | -40 | -4 | 1734 | -19 | -160 | -1 | -8 |
| WY CASPER | CPR | 253 | 4 | 63 | 1634 | -92 | -146 | -5 | -8 |
| WY CHEYENNE | CYS | 254 | 24 | 77 | 1614 | -64 | -152 | -4 | -9 |
| WY LANDER | LND | 307 | 42 | 103 | 1626 | -187 | -199 | -10 | -11 |
| WY SHERIDAN | SHR | 235 | -17 | 59 | 1625 | -170 | -256 | -9 | -14 |

# MEAN ANNUAL TOTAL SNOWFALL (Inches)


INSUFFICIENT DATA FOR ISOLINES.
SNOW IN HIGH MOUNTAINS, RARELY AS LOW AS 6000 FT. ELEVATION
HAWAII
SNOW DOES NOT OCCUR
PUERTO RICO AND VIRGIN ISLANDS
MEAN SNOWFALL (Inches) (Selected Stations)
ALASKA - THOMPSON PASS ABOUT 600
WASH. - RAINIER PARADISE R.S. 587
MT. BAKER LODGE 530
OREG. - CRATER LAKE 521
CALIF. - TAMARACK 445
SODA SPRINGS 398
IDAHO - ROLAND WEST PORTAL 275
NEV. - MARLETTE LAKE 241
UTAH - SILVER LAKE BRIGHTON 376
ARIZ. - BRIGHT ANGEL 132
MONT. - KINGS HILL 270
SUMMIT 253
WYO. - BECHLER RIVER 285
DOME LAKE 215
COLO. - WOLF CREEK PASS 409
SILVER LAKE 365
N. MEX - RED RIVER 136
MEAN SNOWFALL (Inches) - Cont'd (Selected Stations)
MICH. - HOUGHTON 178
N. Y. - BOONVILLE 207
PA. - KANE 107
W. VA - KUMBRABOW STATE FOREST 126
N. C. - MT. MITCHELL 60
PARKER 47
MAINE - GREENVILLE 111
N. H. - MT. WASHINGTON 198
FIRST CONNECTICUT LAKE 172
VT. - SOMERSET 114
MASS. - WEST CUMMINGTON 85
CONN. - NORFOLK 93
CAUTION SHOULD BE USED IN INTERPOLATING ON THESE GENERALIZED MAPS, PARTICULARLY IN MOUNTAINOUS AREAS.
DATA BASED ON PERIOD OF RECORD THROUGH 1960.

## National Agricultural Summary

November 23 to 29, 1987

HIGHLIGHTS: Rain delayed cotton and soybean harvests in the southern Great Plains, Delta, and Southeast. The precipitation enhanced wheat growth from the Corn Belt, into the eastern central Great Plains, and through the Delta, Southeast, and southeastern Great Plains. The rain renewed seeding and germination in some Southeast States. Precipitation limited fieldwork to less than 5 days in most of the eastern half of the Nation. Soil moisture was mostly adequate but remained short in some northern and central Great Plains area, and some Delta and Southeast States.

Winter wheat was mostly good to fair. Crop condition was mostly fair to good in the Southeast and Rocky Mountain States. Soybean harvest was still underway in Georgia, South Carolina, Alabama, North Carolina, and Arkansas. Cotton harvest reached 76 percent (%) completion, compared with 67% in 1986 and the 74%, 5-year average. Harvest approached completion in California, Georgia, North Carolina, and South Carolina. Rain prolonged harvest completion in the Southeast. Sorghum harvest continued lagging behind normal in Oklahoma and Texas. Moisture increased tobacco stripping in Kentucky and Tennessee. Livestock was mostly good.

SMALL GRAINS: Moisture stimulated wheat germination and growth throughout the Delta and most of the southern Great Plains and Southeast. However, the rain continued prolonging small grain seeding. The rain spread from the eastern central Great Plains through the Corn Belt, improving condition and growth. Winter wheat was mostly good to fair except in some Southeast and Rocky Mountain States, where crop condition was good to fair. Georgia's seeding climbed 6 points ahead of the previous week to 91% completion, 16 points ahead of the previous week. Seeding was finished 86% in North Carolina and 68% in South Carolina, 4 points ahead of normal in North Carolina and 21 points in South Carolina. In Arkansas, excessive water damaged some wheat in fields with poor drainage. The lack of moisture concerned western wheat growers in Kansas. Greenbugs were active in many areas, but young wheat was most susceptible to damage. Wheat streak mosaic disease was at epidemic proportions except in east-central and southeast Kansas. Michigan's winter wheat was good to excellent. Wind damaged some winter wheat in Montana. In Nebraska, snow and rain improved wheat condition as wheat moved into dormancy. Yellow leaves were evident in some areas. Greenbugs were heavy in western Oklahoma. Cold weather slowed greenbug and aphid activity in South Dakota, but temperatures have been too warm to eradicate the insects in some areas. In Washington, scattered showers relieved winter grains of drought-induced stress. Rain slowed planting in Texas. Dryland wheat was stressed from the lack of moisture. Irrigation continued, but some fields began turning yellow. Winter wheat seeding reached the halfway point in California but was still 3 points behind normal.

SOYBEANS: Rain slowed soybean harvest in the Delta and Southeast. Georgia's harvest was 91% finished, compared with 75% normally. Harvest neared completion in Alabama, Arkansas, and Louisiana. Harvest increased 10 points in North Carolina and 12 points in South Carolina despite wetness. A few acres remained to be harvested in the Corn Belt and Rocky Mountain States.

COTTON: Cotton was 76% harvested, compared with 67% in 1986 and 74% normally. Harvest pushed 7 points ahead of the previous week. Rain prevented the completion of harvest in the Southeast. Alabama and Arkansas farmers were able to complete harvest despite rain. Harvest neared completion in California, Georgia, South Carolina, and North Carolina. Oklahoma's harvest jumped 20 points ahead of the previous week to 40% finished. Harvest climbed 5 points ahead of normal and was 30 points ahead of 1986. Texas harvest surged 15 points but ended the week 2 points behind the 53% average. High humidity caused slight delays some mornings. New Mexico's harvest reached 59% completion, trailing 8 points behind the average.

OTHER CROPS: Texas' sorghum harvest progressed without major delay in the Plains, and many producers were winding down activities. Ninety-four percent of the acreage was harvested just slightly behind normal. Sorghum was 75% harvested in Oklahoma, compared with 90% normally.

Moisture increased burley tobacco stripping in Kentucky and Tennessee. Tobacco was 30% stripped in Maryland, equaling the average.

Rain slowed peanut harvest in central and southern Texas. Harvest was declining in the Low Plains and slowed at Cross-Timbers. Texas harvest was 94% finished, 2 points above normal. Oklahoma's harvest was 5 points above normal at 95% completion.

FRUIT AND NUTS: Florida's citrus groves were good to excellent. Fruit size improved but droppage was not excessive. Rain slowed harvest and caretakers' activities. Citrus harvest continued with good yields in Texas. Navel oranges, lemons, and grapefruit were shipped in central and western Arizona. Orlando tangerines were harvested in central areas. Farmers actively pruned orchards and applied herbicides and fertilizer in California. Navel orange quality and color were good. Good quality lemons and tangerines were harvested in the desert. Persimmon harvest was ending.

VEGETABLES: Fall vegetable harvest and winter planting were active in Florida. Whitefly infestations and poor conditions at planting hurt lettuce yields in western Arizona. Cauliflower, broccoli, and bok choy harvests continued. Mixed vegetable harvest is expected to be completed soon in central areas. California's vegetable movement was interrupted by the Thanksgiving holiday. Celery, broccoli, and cauliflower movement was light. Lettuce harvest was underway in the Palo Verde Valley.

PASTURES AND LIVESTOCK: Wet conditions caused a respiratory problem in Iowa. Supplemental feeding continued in most areas. Livestock was mostly good. Pastures were mostly fair. Moisture encouraged growth in the Delta and Southeast.

## State Summaries of Weather and Agriculture

**These summaries provide brief descriptions of crop and weather conditions important on a national scale. More detailed data are available in Weather and Crop Bulletins published each Monday by NASS State Statistical Offices in cooperation with the National Weather Service.**

ALABAMA: Rainfall totals mostly less than 1.00 in.; 1.00 to 2.00 in. over Tennessee Valley. Temperatures averaged 5 to 10° above normal.

Days suitable for fieldwork 5.8. Soil moisture 66% short, 34% adequate. Showers provided needed moisture for small grains; slowed harvest of late crops. Soybeans 98% harvested, 84% 1986, 86% avg, Wheat 83% seeded, 70% 1986, 78% avg. Pastures mostly poor to fair, livestock fair to good. Primary activities: Harvesting soybeans, pecans, fall vegetables; planting small grains, winter annuals; soil testing; pruning fruit tress; turning harvested cropland; providing supplemental feed to livestock; routine care of livestock, poultry.

ARIZONA: Weak high pressure ridge 22nd, sunny skies, light winds. Weak dry disturbance 23rd, high clouds southeastern half, mostly sunny conditions elsewhere. Weak high pressure ridge, fair skies, abundant sunshine 24th. Abrupt change 25th, strong cold low pressure system, cold front pushed southwest, blustery winter weather north. Winds peaked 50 mph Show Low; 40 mph Winslow; 2 in. snow Flagstaff, light snow 4,500 ft. Skies mostly sunny, gusty winds peaking 25 to 35 mph south. Colder, drier air spread behind cold front; minimum readings under clear skies Thanksgiving morning; 30s, 40s lower deserts, 20s intermediate elevations, teens high country. Few snow flurries extreme northeast, otherwise, bright, sunny as high pressure continued through 28th. Temperatures 5° below normal to 1° above.

Cotton harvest continued during Thanksgiving week; shredding, disking, plowing west. Harvest neared completion, light plowdown east. Active shredding, plowdown central. Cotton 91% harvested. Alfalfa hay generally good; harvest continued west. Sheeping off heavy southeast; harvest neared completion. New stands excellent condition, no killing frosts west. Wheat, barley seedbed preparation active west; just began east. Early plantings good progress. Lettuce shipments continued west; yields hurt by whitefly infestations, poor conditions at planting. Harvest neared completion west, central. Cauliflower, broccoli, bok choy harvest continued. Mixed vegetables shipped central; harvest expected complete this week. Immature vegetables continued normal progress. Lemon, grapefruit, navel orange shipments continued west. Navel oranges, orlando tangerines, light lemon, grapefruit shipments central. Mineola harvest expected end of week. Few watermelons shipped central. Pecan harvest began southeast; harvest continued east, west. Apple picking complete; packing activities continued. Cattle, calf mostly good; 25% fair, 50% good, 25% excellent. Stockwater 20% short, 73% adequate, 7% surplus; soil moisture 33 short, 60% adequate, 7% surplus. Ranges, pastures supplied 47% average amounts of feed, 33% above average, 20% below average. Light rains north, central helped pasture conditions.

ARKANSAS: Warming trend held temperatures above normal while rain continued across State. Temperature extremes 25°; 77°. Rainfall total 1.07 to 3.78 in.

Days suitable for fieldwork 2.0. Soybeans 8% very poor, 12% poor, 51% fair, 29% good. Soybeans 97% harvested, 76% 1986, 84% avg. Wheat 96% planted, 82% 1986, 72% avg. Wheat 2% poor, 16% fair, 58% good, 24% excellent. Oats 97% planted; mostly good. Some damage to wheat fields with poor drainage; water furrows being cut. Pecan harvest continued. Livestock good. Hay, grain being fed to supplement pastures.

CALIFORNIA: Weather across State dominated by high pressure ridge which brought mostly dry conditions to State. However, temperatures slightly below normal. Light amounts of rain along north coast, northern Sierra as weak storm systems moved over top of ridge brushed State.

Open weather permitted good progress completing harvest, preparing fields spring-sown crops. Cotton harvest neared completion. Shredding, discing good progress. Seeding small grains good progress. Winter wheat 50% seeded, 55% 1986, 53% avg.; 35% emerged, 35% 1986, 39% avg. Grain sorghum, sugarbeet harvests continued. Cutting alfalfa about complete except desert valleys where seasonally active. Fall varieties of avocado harvest continued. Date harvest continued. Kiwi harvest complete. Persimmon harvest winding down. Navel orange harvest continued, good quality, color. Harvesting of good quality desert lemons, tangerines continued. Pruning orchards, applying herbicides, fertilizers active. Vegetable movement interrupted by holiday. Santa Maria, Salinas broccoli, cauliflower movement light good quality. Cauliflower harvested Riverside, Delta. Celery movement very light good quality Santa Maria, Salinas. Lettuce harvest underway Palo Verde Valley, excellent market due to earlier weather, pest conditions, seasonal decline in other areas. Potato harvest started heavy movement Riverside. Livestock good, statewide. Movement to market started to slow Redding. Cattle feeding in full swing Alturas, as snow, freezing temperatures received. Other areas supplemental feeding decreased as range, pasture grasses showed new growth. Stock pond levels still below normal. Calving active.

COLORADO: Precipitation limited to few heavy snow storms higher elevations early week. Snow spread across southern, eastern sections midweek, up to 10 in. mountain areas, 3 to 5 in. southeastern plains, up to 3 in. northeast. Average temperatures near normal northern half, 1 to 3° below normal elsewhere.

Major activities feeding, care of livestock, harvest few remaining fields of corn and sorghum.

FLORIDA: High pressure over Carolinas produced easterly winds early week with light showers along east coast. Showers spread across State midweek with rainfall 1.00 to 2.00 in. over much of State. Generally dry weekend; only light showers north, east coast. Temperatures averaged above normal, ranging from 1° above north to 3° above south.

Soil moisture mostly adequate. Planting oats, rye good progress. Winter wheat planting more active. Cotton harvest active when weather permitted. Soybean, peanut harvests virtually complete. Sugarcane harvest good progress, planting continued. Winter annual forage crops benefited from much needed moisture, seasonally mild temperatures. Hay feeding underway some areas with insufficient forage. Seeding of pastures, slowed earlier by dry soils, continued active. Winter grazing will be delayed on these late seedings. Some early plantings nearly ready for grazing. Cattle, calves vary from fair to mostly good. Citrus groves very good to excellent. Soil moisture excellent, ponds and streams refilling. Fruit sizes improved, droppage not excessive.

Harvest, caretakers' activities slowed by Thanksgiving, rain. Mild temperatures vegetable producing areas. Limited rainfall allowed needed drying. Harvest fall crops, planting winter crops active. Good volume tomatoes, cucumbers, peppers, snap beans, celery, squash, sweet corn. Lesser volume escarole, endive, specialty lettuce, radishes, eggplant, cabbage, carrots. Limited supply belle glade iceberg available.

GEORGIA: Temperatures 9° above normal. Extremes 78° number of locations to 29° Clayton. Rain up to 4 days. Rain totals mostly less than 1.00 in.; greatest 1.50 in. Helen in White County.

Days suitable for fieldwork 5.5. Soil moisture 13% very short, 58% short, 29% adequate. Sorghum grain 97% harvested, 95% 1986. Soybeans 2% very poor, 27% poor, 53% fair, 15% good, 3% excellent; 91% harvested, 70% 1986, 75% avg. Wheat 12% poor, 61% fair, 19% good, 8% excellent; 58% planted, 66% 1986, 64% avg.; 29% emerged, 51% 1986. Rain renewed planting, germination, growth. Rye much improved, nearly 90% planted. Other small grains over 75% planted, condition much improved. Pecans 10% poor, 68% fair, 22% good; 57% harvested, 61% 1986, 64% avg. Shucks sticking. Pastures some improved from last week, still poor to fair. Cattle fair to good. Hogs fair to mostly good. Main activities: Small grain planting very active after rain; late harvest of row crops, pecans; routine livestock, poultry care.

HAWAII: Unfavorable weather. Mostly cloudy, daily rain some areas. Winds 15 to 30 mph, gusts 40 mph. Temperatures upper 60s to mid 80s. Rainfall none to 3.30 in.

Days suitable for fieldwork 7.0. Lower yields vine, bush, tree crops due to wind bruising. Wet fields slowed farming, increased disease on some crops. Irrigation lower. Crops fair to good. Banana production steady. Papaya production heavy, decline expected soon. Chinese, head cabbage supplies steady, good quality. Tomato production to increase. Coffee season more than 50% over, light crop. Macadamia nut harvesting heavy, varying yields.

IDAHO: Temperatures 4° below to 3° above normal. Precipitation heaviest north. Storms first part of week. Fair skies last part of week. Precipitation range 0.03 to 0.30 in. below normal.

Field activity slow due to weather. Activities included fall plowing, preparing machinery for winter storage. Livestock good. Livestock activities included weaning calves, vaccinating, pregnancy testing, feeding hay to supplement pasture.

ILLINOIS: Temperatures averaged 2 to 8° above normal. Precipitation totals 0.50 to 1.00 in. northwest; 2.00 to 4.00 in. central, south.

Winter wheat mostly good, helped by good rains.

INDIANA: Temperatures 3 to 10° above normal. Lows upper 20s to 30s, highs mid 50s to mid 60s. Precipitation above normal. Totals 1.50 to 3.00 in.

Scattered showers slowed field activities. Corn, soybean harvest virtually complete. Other activities: Tilling, hauling manure, ditching, hauling grain, machinery repair, stripping tobacco. Rain helped winter wheat condition.

IOWA: Very wet week, temperatures averaged near normal southwest to 5° above normal northeast. Precipitation well above seasonal normals statewide. Weekly totals in excess of 1 in. eastern three-fourths of State. Heavy snow also occurred on 27th, 28th west, 10 in. Red Oak.

Topsoil received much needed moisture from rain, snow over weekend. Very few harvest activities left. Limited farm activities include machinery repair, general livestock care. Weekend rains made very sloppy feed lot conditions, caused some respiratory problems in cattle.

KANSAS: Temperatures averaged 33° northwest to 41° southeast, 36 to 40° elsewhere; 2° below normal southwest, 2° above normal central and east central. Precipitation averaged 0.30 to 0.40 in. west, central, northeast; 0.90 in. east central; 1.80 in. southeast.

Days suitable for fieldwork 4.5. Soil moisture 50% short, 39% adequate, 11% surplus. Lack of moisture concern west, trouble establishing wheat root system before winter. Wheat streak mosaic epidemic proportions except east central, southeast. Leaf rust present statewide, most active eastern third. Greenbugs many areas, younger wheat most susceptible to damage. Conditions improve west to east. Sorghum harvest wrapped up except few fields southwest, south central. Pastures fair, very poor to fair west, excellent east central and southeast, good elsewhere. Cattle moving from pasture to row crop stubble. Some supplemental feeding necessary where stubble destroyed, wheat pasture not established. Approximately 20% of wheat being pastured, 15% 1986, 10% avg.

KENTUCKY: Unseasonably mild temperatures with variable rainfall. Daily mean temperatures 50 to 55°, 8 to 12° above seasonal normals. Rainfall amounts varied from 2.50 in. west to little over 1.00 in. central, to less than 0.50 in. east.

Soil moisture short to very short. Rain most beneficial to fall seeded crops, hanging tobacco, pastures. Tobacco stripping active thanks to last week's rains.

LOUISIANA: Temperature 1 to 6° above normal. Temperature extremes 30°; 83°. Rainfall averaged 0.50 to 2.41 in.

Days suitable for fieldwork 3.9. Soil moisture 7% short, 59% adequate, 34% surplus. Winter wheat fair to good; 87% planted, well ahead of 58% avg. Harvest of soybeans, sweetpotatoes virtually completed. Pecans 74% harvested. Sugarcane good; 79% harvested, 65% avg. Livestock, vegetables fair to good. Pastures fair. Main activities: Harvesting sugarcane, pecans; planting winter wheat; topdressing winter pastures.

MARYLAND & DELAWARE: Maryland: Average temperature 44°, normal 44°. Lowest temperature 8°, highest temperature 73°. Precipitation averaged 0.07 in.

Days suitable for fieldwork 4.6. Topsoil moisture adequate to surplus, mostly adequate. Subsoil moisture adequate to short, mostly adequate. Soybeans fair to poor, mostly fair. Soybeans 90% harvested, 90% avg. Corn 99% harvested, 99% avg. Small grains good to fair, mostly good. Wheat, rye 99% planted, 99% avg. Tobacco 30% stripped, 30% avg. Hay supply adequate.

Delaware: Average temperature 44°, normal 46°. Precipitation averaged 0.03 in.

Days suitable for fieldwork 4.2. Topsoil, subsoil moisture adequate. Soybeans fair to good. Soybeans 80% harvested, 85% avg. Corn 100% harvested, 100% avg. Small grains good. Wheat 97% planted, 99% avg. Rye 99% planted, 94% avg.

MICHIGAN: Temperatures ranged 3 to 6° above normal. Temperature extremes 14°; 54°. Precipitation 0.19 to 1.97 in. across State. Light snow northern Lower Peninsula, heavier Upper Peninsula. Rain across rest of State.

Winter wheat good to excellent. Activities: Spreading manure, plowing fields, combining corn,

soybeans; maintaining equipment, marketing hay, grain, fruits, vegetables; livestock good, many still on pasture, feed supplies adequate, few moving to auction.

MINNESOTA: Temperatures averaged 4 to 6° above normal. Extremes 4°; 53°. Precipitation averaged 0.16 to 0.26 in. below normal northern third, 0.11 to 0.92 in. above normal elsewhere. Precipitation totals averaged none to 0.30 northern third, west central; 0.89 to 1.23 in. elsewhere. Greatest weekly total 2.70 in.

Good weather most of week allowed farmers to make final preparations for winter. Livestock remained good.

MISSISSIPPI: Temperatures 3° above to 12° above normal; extremes 23°; 82°. Cloudy skies, warm temperatures dominated. Precipitation heaviest northern half of State. Greatest 24-hour rainfall 2.87 in.; greatest weekly total 2.77 in.

Days suitable for fieldwork 3.1, 0.2 1986, 1.8 avg. Soil moisture 45% short, 35% adequate, 20% surplus. Soybeans 100% harvested, 81% 1986, 83% avg. Cotton 100% harvested, 100% 1986, 93% avg. Pecans 55% harvested, 70% 1986, 65% avg. Pastures poor to good, livestock mostly good.

MISSOURI: Temperatures averaged 3° above normal except Bootheel 6° above normal. Rain 6.00 to 7.00 in. southwest caused local flooding. Up to 4.00 in. rain east and Bootheel, over 2.00 elsewhere except northwest less than 1.00 in.

Topsoil moisture 13% short, 73% adequate, 14% surplus. Wheat 1% poor, 23% fair, 73% good, 3% excellent. Pasture 3% very poor, 10% poor, 53% fair, 32% good, 2% excellent. Livestock 10% fair, 85% good, 5% excellent.

MONTANA: Light snow in western, southwest, south central divisions; heavier amounts over mountains. Little or no moisture rest of State. Temperatures southwest averaged near to slightly below normal. Rest of State remained mild, temperatures generally 2 to 9° above normal.

Topsoil moisture supply mostly short. Subsoil moisture supply mostly adequate. Winter wheat fair to good. Wind damaged some winter wheat fields. Number of livestock receiving supplemental feed less than average. Winter ranges, pastures mostly good.

NEBRASKA: Temperatures ranged 1° below normal west, 3° above normal east. Extremes 10°; 53°. Heavy snow late week, up to 8 in. eastern half of State. Precipitation varied, trace west, 1 in. east.

Topsoil moisture 29% short, 71% adequate, prior to weekend snowfall. Subsoil moisture 31% short, 69% adequate. Snow, rain after holiday improved wheat condition as crop moves into dormancy. Yellow leaves evident in some areas. Russian wheat aphid monitored, no need for control measures. Fall tillage active first half of week. Few remaining corn fields picked. Feed supplies remained adequate. Cattle on crop residue fields. Weaning calves, moving hay continued.

NEVADA: Mostly dry, cold. Freak storm midweek dropped scattered, light snow northern areas. No precipitation south. Temperatures averaged near normal southern areas, 1 to 6° below normal central, northern sections. Temperature extremes 5°; 72°.

Main ranch activities feeding, caring for livestock. Good progress marketing potatoes. Prices dropped sharply.

NEW ENGLAND: Average precipitation (rain or equivalent of snow) ranged from between 0.25 to 0.50 in. across much of region. However, several locations northern areas received amounts in excess of 1.00 in. Snowfall generally confined to far northern, mountain sections. Average temperature low to mid 30s in northern areas to upper 30s, 40s south. Temperatures 2 to 3° above normal for this time of year.

Major farm activities: Tending livestock, poultry; moving Christmas trees to markets.

NEW JERSEY: Temperatures below normal, averaged 42° north, 45° south, 47° coastal. Extremes 16°; 79°. Precipitation above normal, averaged 1.97 in. north, 1.20 in. south, 1.22 in. coastal. Heaviest 24-hour total 2.30 in. on 29th, 30th.

Farm retail outlets busy filling consumer needs such as turkeys, sweetpotatoes, squash, turnips, apples, cider, other holiday items. Fruit pruning, livestock caring, field corn, soybean combining continued as conditions permitted. Christmas tree cutting, digging began.

NEW MEXICO: Temperatures 0° Chama to 74° Hobbs. Winter snow storm northern mountains, trace precipitation southern areas.

Days suitable for fieldwork 7.0. Soil moisture 89% short, 11% adequate. Cotton 14% fair, 86% good; harvest underway all areas. Harvest conditions remained very good; good to above average yields indicated. Barley 14% fair, 86% good. Wheat slipped to 10% poor, 19% fair, 71% good; moisture needed statewide. Irrigated grain sorghum 25% fair, 62% good, 13% excellent, 90 to 95% harvested High Plains. Dryland sorghum 20% poor, 20% fair, 40% good, 20% excellent. Corn 14% fair, 72% good, 14% excellent; harvest virtually complete. Pecans 33% fair, 67% good; harvest gained momentum. Red chile harvest continued southern deserts; crop fair to good. Cattle 13% fair, 87% good. Sheep 100% good. Range 50% fair, 50% good.

NEW YORK: Early week temperatures below normal. Midweek averaged 5° above normal. Late week seasonal levels. Lows in most areas in teens. Precipitation near to above normal north, west but below normal elsewhere.

Producers busy with year end chores. Final grain corn being harvested.

NORTH CAROLINA: Temperatures averaged 4 to 5° above normal. Temperature extremes 12°; 78°. Precipitation 0.10 to 2.48 in. across State.

Days suitable for fieldwork 4.9. Soil moisture 7% very short, 37% short, 43% adequate, 13% surplus. Wheat 86% planted, 87% 1986, 82% avg.; 71% emerged, 72% 1986. Oats 92% planted, 90% 1986, 89% avg. Barley 95% planted, 94% 1986, 91% avg. Rye 84% planted, 87% 1986, 86% avg. Small grains fair to mostly good. Soybeans 80% harvested, 43% 1986, 55% avg. Pastures 9% poor, 46% fair, 41% good, 4% excellent. Major farm activities: Harvesting soybeans, cotton; seeding small grains; digging, tagging Christmas trees; tending livestock; fall plowing; preparing tobacco plantbeds; general farm maintenance.

NORTH DAKOTA: Mild, scattered light precipitation. Temperatures averaged 3 to 7° above normal. Extremes 4° northeast, 24th; 55° south central, north central 22nd.

Soil moisture below average. Livestock good. Many calves being marketed. Adequate feed supplies. General repairs primary activity.

OHIO: Average temperatures 6 to 12° above normal. Average lows mid 30s to mid 40s. Average highs in 50s. Precipitation above normal ranging from 0.70 in. to almost 2.00 in. Lightest readings north central, northeast. Southern cumulative precipitation 6.00 to 11.00 in.

Much needed rain brought soil moisture to most of State; southern areas need much more to restore depleted ground water supplies. Winter wheat has sufficient soil moisture for current growth. No stress to livestock.

OKLAHOMA: Temperatures averaged 4° below normal Panhandle, west central to 4° above normal southwest. Precipitation averaged 0.11 in. southwest to 2.25 in. northeast.

Days suitable for fieldwork 4.0. Topsoil moisture 30% short, 45% adequate, 25% surplus. Subsoil moisture 5% short, 95% adequate. Wheat 9% fair, 90% good, 1% excellent; 98% emerged, 80% 1986, 85% avg. Greenbugs heavy west. Cattle grazing 40% acreage. Cotton 15% fair, 65% good, 20% excellent; 40% harvested, 10% 1986, 35% avg. Sorghum 75% harvested, 70% 1986, 90% avg. Peanuts 95% harvested, 95% 1986, 90% avg. Soybeans 75% harvested, 60% 1986, 75% avg. Harvest advanced before showers restricted fieldwork. Dry weather needed to complete harvest. Pastures, livestock good. Killing frost reduced insect problems. Fall calving progressed, no major problems encountered.

OREGON: Temperatures near normal west of Cascades, except central coast below normal due to fog. Temperatures below normal east of Cascades due to clear skies, cold night time readings. Heaviest precipitation in northwest, northern coast range, north coast; coastal areas up to 1.70 in., Willamette Valley 0.33 to 0.67 in. Elsewhere precipitation near normal.

Soil moisture short to adequate west, mostly short east. Light snow high elevations. Some fall fieldwork continued central areas. Grass seed, fall grains growing nicely west. More moisture needed on winter wheat fields east; some reseeding may be done. New clover seedings started to grow west. Filbert pruning underway Willamette Valley. Some weed spraying in strawberry fields Willamette Valley. Vegetable fieldwork complete west. Livestock good to excellent. Range, pastures poor to fair. Pastures greened up since November 1 west.

PENNSYLVANIA: Week began cold, dry. Temperatures became unseasonably warm middle of week. Rain end of week. Average temperature 41°, 3° above normal. Temperature extremes 10°; 67°. Average precipitation 0.49 in., 0.27 in. below normal.

Activities: Harvesting corn, soybeans; hauling manure; spreading lime, fertilizer; machinery maintenance; installing conservation practices; caring for livestock.

PUERTO RICO: Island average rainfall 7.19 in, 5.96 in. above normal. Highest weekly total rainfall 26.82 in. Pico Del Este-Luquillo, 20.88 in. San Lorenzo Farm, 19.03 in. Gurabo Aes. Highest 24-hour total 12.50 in. San Lorenzo Farm. San Juan mean temperature 78°, 1° below normal. Total rainfall 5.52 in., 4.26 in. above normal. Divisional temperature averaged about 78 to 79° on coasts, 72 to 73° interior, mean station temperature 63° Cerro Maravilla to 83° Roosevelt Roads. Lowest minimum temperature 56° Pico Del Este-Luquillo. Highest maximum temperature 91° several places.

SOUTH CAROLINA: Rainfall statewide ranged 0.20 to 4.60 in.

Days suitable for fieldwork 4.5. Soil moisture 51% short, 46% adequate, 3% surplus. Cotton 99% harvested, 78% 1986, 89% avg. Soybeans 78% harvested, 52% 1986, 53% avg.; 1% very poor, 5% poor, 80% fair, 14% good. Wheat 68% planted, 52% 1986, 47% avg.; fair to good. Pasture, livestock fair to good.

SOUTH DAKOTA: Average temperatures 2 to 11° above normal. Extremes 8°; 66°. Black Hills low 7°. No precipitation west; some north, southeast in form of rain, snow.

Primary problem with winter wheat crop is lack of moisture. Many areas going into winter too dry, hoping for some snow cover. Greenbug, aphid activity slowed down by cold weather but some areas haven't been cold enough to destroy them. Most cattle pulled off pasture, some still on stalks. Some problems for calves in feedlots due to dust.

TENNESSEE: Unusually warm week. Wet west; dry middle, east. Temperatures averaged 7 to 9° above normal.

Tobacco markets opened. Other activities: Stripping tobacco, farm chores.

TEXAS: Cold, wet weather rule across much of State. Early week cold front pushed into northern sections bringing colder air, showers, thunderstorms central, north central areas. Front moved southeast; severe thunderstorms, heavy rainfall east, southeast. Western half State dry, cold. Temperatures generally below normal. Above normal readings southeast, south central. Rainfall totals above normal eastern half, below normal west.

Crops: Grain sorghum harvest progressed without major delay Plains. Many producers winding down activities. Yields good. Sorghum 100% mature, 100% 1986, 100% avg. Sorghum 94% harvested, 89% 1986, 96% avg. Cotton harvest active Plains, Trans-Pecos. Yields, quality high. Gins began running behind some areas because harvest progress. High humidity some mornings slight delay. Cotton 95% open bolls, 89% 1986, 96% avg. Small grains central, southern, eastern areas, Blacklands benefited from rains. Planting slowed by rain but should increase as conditions dry. Producers completed most planting Plains, Cross-Timbers. Dryland fields stressed for moisture, irrigation continued. Some fields began turning yellow. Grazing light many dryland fields. Wheat 99% planted, 99% 1986, 96% avg. Wheat 96% emerged, 95% 1986, 87% avg. Most soybean harvest completed Plains. Harvest continued Upper Coast, low yields, deteriorating grades. Rain stalled harvest slightly northeast. Drier weather needed. Peanut harvest slowed by rain central, southern areas. Harvest winding down Low Plains. Harvest slowed Cross-Timbers. Grades remained fair. Sugarbeet harvest winding down Plains. Rio Grande Valley sugarcane harvest continued on schedule, good yields. Other crops planted: Oats 96%, 93% 1986, 92% avg. Other crops harvested: Peanuts 84%, 87% 1986, 82% avg. Pecans 55%, 75% 1986, 57% avg. Soybeans 92%, 88% 1986, 83% avg. Sugarbeets 91%, 60% 1986, 81% avg. Sunflowers 95%, 89% 1986, 90% avg.

Commercial Vegetables: Rio Grande Valley harvest peppers, tomatoes, cabbage continued. Lettuce harvest began. Onions good progress. Citrus harvest continued, good yields. San Antonio-Winter Garden harvest broccoli, cabbage, carrots, tomatoes, peppers continued; good yields. Spinach harvest increased. Pecan harvest full swing many areas. Quality good, prices down.

Range and Pasture: Range, pasture conditions improved wet areas, although colder temperatures slowed improvement. Many dryland small grain pastures need rain to provide forage Plains. Supplemental feeding livestock steady. Body conditions, weight gains remained good with supplemental feeding.

UTAH: Precipitation none to light. Temperatures 2° below to 3° above normal.

Livestock good to excellent, feed supplies adequate. Major farm activities: Livestock chores, winterizing buildings and equipment, attending

seminars and organizational meetings, summarizing tax records, care of storage grains, marketing feeder replacements, filling feedlots.

VIRGINIA: Cool, dry beginning. Warming followed. Period ended with widespread clouds, rain. Temperatures 3 to 4o above normal. Precipitation averaged 0.50 to 1.00 in.

Days suitable for fieldwork 5.1. Topsoil moisture 34% short, 66% adequate. Grain corn 98% harvested, 93% 1986, 93% avg. Soybeans 84% harvested, 58% 1986, 71% avg. Wheat 92% seeded, 90% 1986, 90% avg. Burley tobacco marketed. Pastures good. Winter chores, hunting active.

WASHINGTON: Moderate weather systems moved through region first part of week bringing rain to western, extreme eastern area. Cascade rain shadow left State's mid section dry. High pressure midweek allowed dry period. Temperatures slightly above normal, mild highs, below freezing lows.

Soil moisture 70% short, 30% adequate. Scattered showers relieved some winter grain crops of drought induced stress. Some winter wheat still not emerged southeast. Winter wheat emergence southeast counties ranged 25 to 90%. Five year average showed winter wheat normally 100% emerged by this date. Winter grain mostly fair, good; also some poor, very poor. Corn grain harvest winding down Grant, Benton Counties. Pruning, orchard cleanup continued. Carrot digging nearly completed Grant County. Range, pasture 90% short, 10% adequate. Supplemental feeding of livestock continued. Hay, roughage feed supplies continued adequate, surplus.

WEST VIRGINIA: Average temperature 49°; 5 to 11° above normal. Extremes 8° Belington; 76° Creston. Precipitation averaged 0.88 in.; 0.43 in. southwest to 1.76 in. northeast.

Farm activities included livestock care, general farm maintenance, limited hay; corn harvesting. Wheat, barley good. Feed supplies adequate.

WISCONSIN: Temperatures averaged 35°, 8° above normal. Extremes 6°; 53°. Precipitation 0.30 to 1.00 in. Snow 1 to 8 in most areas except south, east.

Farmers ready for winter.

WYOMING: Temperatures above normal northeast, elsewhere below normal. Precipitation generally below normal.

Corn harvest, other fall fieldwork mostly complete. Winter wheat fair to good. Livestock mostly good. Colder temperatures, snow increased stress. Supplemental feeding in areas with snow cover. Hay supplies adequate or better.

## WINDCHILL (EQUIVALENT TEMPERATURES)

WIND CHILL TABLE
AIR TEMPERATURE (°F)

| Wind Speed (miles per hour) | 35 | 30 | 25 | 20 | 15 | 10 | 5 | 0 | -5 | -10 | -15 | -20 | -25 | -30 | -35 | -40 | -45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WIND CHILL INDEX (EQUIVALENT TEMPERATURE) - Equivalent in cooling power on exposed flesh | | | | | | | | | | | | | | | | | |
| 4 | 35 | 30 | 25 | 20 | 15 | 10 | 5 | 0 | -5 | -10 | -15 | -20 | -25 | -30 | -35 | -40 | -45 |
| 5 | 32 | 27 | 22 | 16 | 11 | 6 | 0 | -5 | -10 | -15 | -21 | -26 | -31 | -36 | -42 | -47 | -52 |
| 10 | 22 | 16 | 10 | 3 | -3 | -9 | -15 | -22 | -27 | -34 | -40 | -46 | -52 | -58 | -64 | -71 | -77 |
| 15 | 16 | 9 | 2 | -5 | -11 | -18 | -25 | -31 | -38 | -45 | -51 | -58 | -65 | -72 | -78 | -85 | -92 |
| 20 | 12 | 4 | -3 | -10 | -17 | -24 | -31 | -39 | -46 | -53 | -60 | -67 | -74 | -81 | -88 | -95 | -103 |
| 25 | 8 | 1 | -7 | -15 | -22 | -29 | -36 | -44 | -51 | -59 | -66 | -74 | -81 | -88 | -96 | -103 | -110 |
| 30 | 6 | -2 | -10 | -18 | -25 | -33 | -41 | -49 | -56 | -64 | -71 | -79 | -86 | -93 | -101 | -109 | -116 |
| 35 | 4 | -4 | -12 | -20 | -27 | -35 | -43 | -52 | -58 | -67 | -74 | -82 | -89 | -97 | -105 | -113 | -120 |
| 40 | 3 | -5 | -13 | -21 | -29 | -37 | -45 | -53 | -60 | -69 | -76 | -84 | -92 | -100 | -107 | -115 | -123 |
| 45 | 2 | -6 | -14 | -22 | -30 | -38 | -46 | -54 | -62 | -70 | -78 | -85 | -93 | -102 | -109 | -117 | -125 |

COLD
VERY COLD
BITTER COLD
EXTREME COLD

WIND SPEEDS GREATER THAN 40 MPH HAVE LITTLE ADDITIONAL CHILLING EFFECT

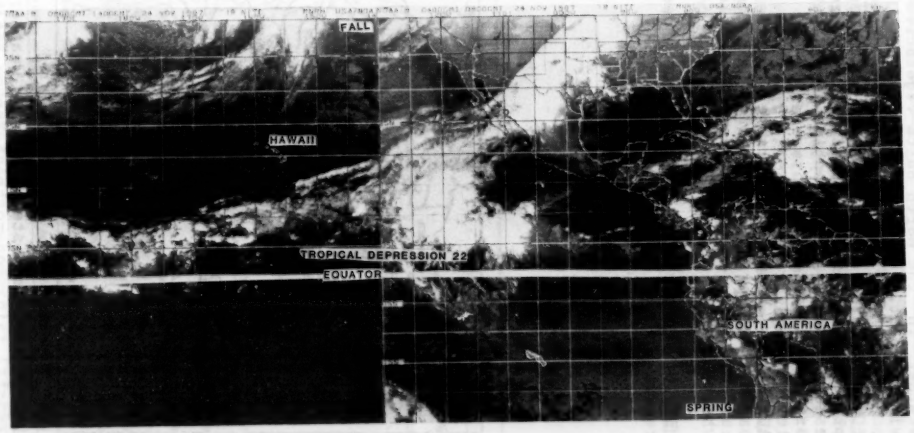
Windchill is an equivalent temperature that measures the degree of physical discomfort and stress from combined cold and wind. The term originated from studies made by explorers and military experts working in polar regions who compared rates of physiological heat loss for various combinations of ambient temperature and wind speed. The windchill equals the air temperature when the wind speed is 4 miles per hour (m.p.h.) or less. At higher wind speeds, the windchill is lower than the air temperature and measures the increased rate of heat loss from the body under windy conditions.

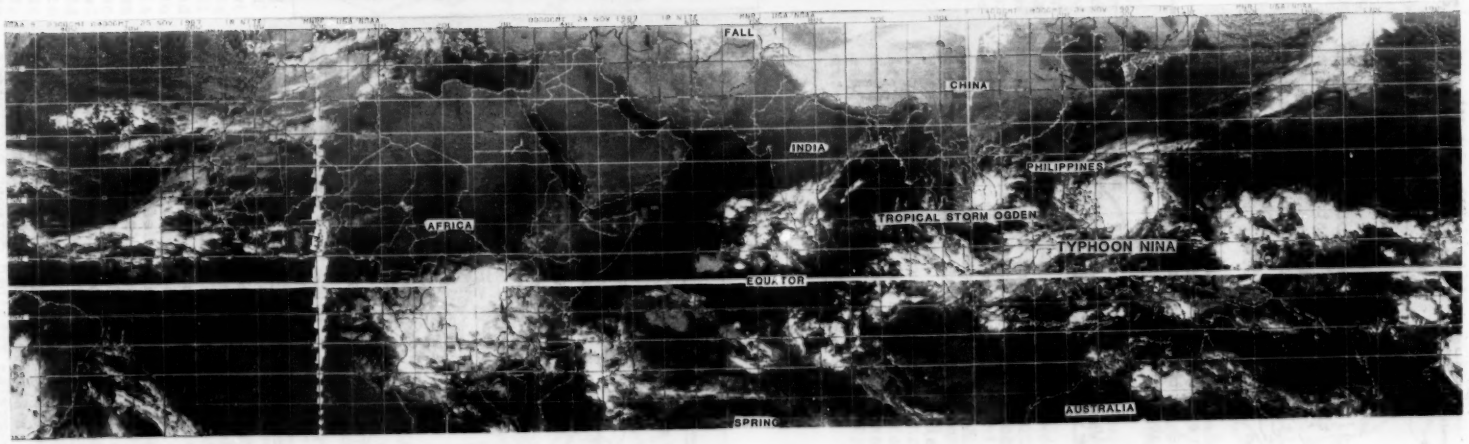
The effects of windchill depend strongly on the amount of clothing and other protection worn as well as on age, health, and body characteristics. As windchill equivalent temperatures decrease, the risk of hypothermia and frostbite from being inadequately clothed increases. Windchills below 0°F indicate a definite risk of frostbite or other injury to exposed flesh. Prolonged exposure at windchills below -20° F can be very dangerous and possibly life threatening unless special efforts are made for protection.

The table gives windchill values as a function of air temperature (abscissa) and wind speed (ordinate). For example, a 30 m.p.h. wind combined with a temperature of 30° F (-1° C) can have the same chilling effect as a temperature of -2° F (-19° C) when the wind is calm.

# Global Weather Satellite Image

## NOVEMBER 24, 1987



# International Weather and Crop Summary

November 22 - 28, 1987

HIGHLIGHTS:

UNITED STATES...Rain delays cotton and soybean harvests in the southern Great Plains, Delta, and Southeast. The precipitation enhances wheat growth from the Corn Belt, into the eastern central Great Plains, and through the Delta, Southeast, and southeastern Great Plains.

WESTERN U.S.S.R....Snow changes to rain over western winter grain areas. Snow blankets winter grains in the northeast, protecting crops from unseasonable cold.

EUROPE...Rain continues over most areas, improving winter grain prospects in the southeast but keeping fields unfavorably wet in the north.

SOUTH ASIA...Minimal rain covers southern India's boll forming to filling cotton.

NORTHWESTERN AFRICA...Moderate rain over Morocco and western Algeria provides abundant moisture for winter grains.

SOUTH AFRICA...Beneficial showers maintain favorable conditions for planting and early development throughout South Africa's primary corn regions.

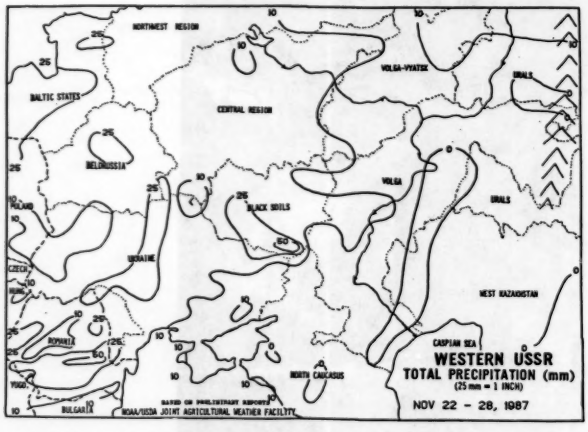
SOUTHEAST ASIA...Typhoon Nina brings flooding and wind damage to the Philippines. Dry weather covers most rainfed Thai rice.

EASTERN ASIA...Remnants of Typhoon Nina bring heavy rains to much of the southeast. Cold weather in the north halts vegetative growth of winter wheat.

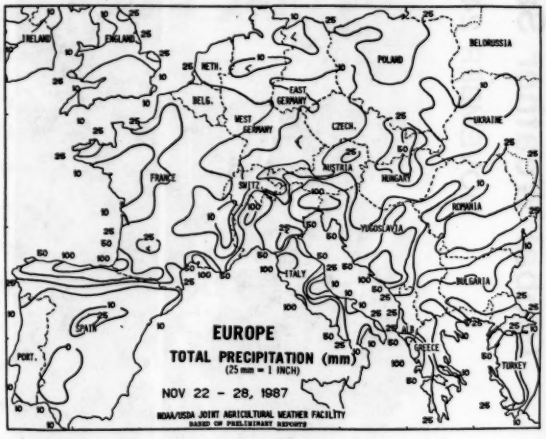
SOUTH AMERICA...Rain covers most crop areas, providing generally favorable moisture for crop establishment in Argentina and south-central Brazil.

AUSTRALIA...Mostly favorable weather covers eastern summer crop areas. Light to moderate rain in the south causes minor delays in the wheat harvest.

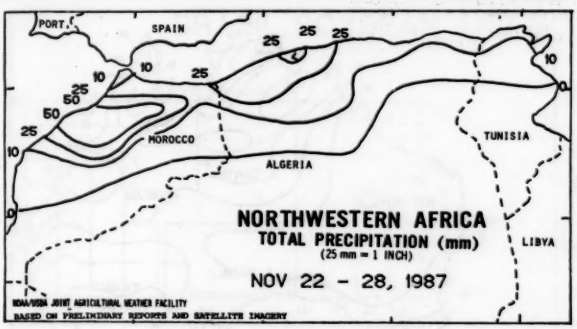
MEXICO...Mostly dry weather continues over the region.



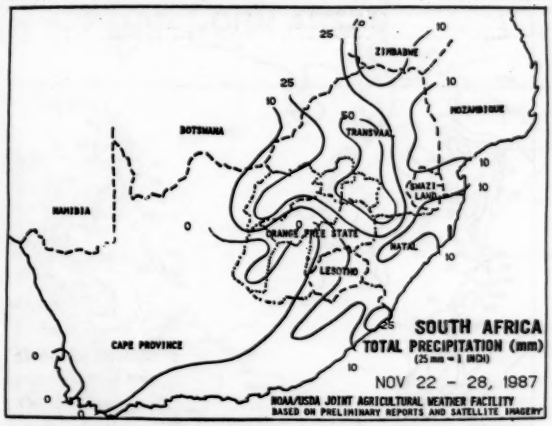

WESTERN U.S.S.R....Early-week snow changed to rain over the Baltic States, Belorussia, the western portion of the Central Region, and the western Ukraine, where precipitation amounts ranged from 10-30mm. Light to moderate snow blanketed the eastern half of the Central Region, the Volga Vyatsk, the upper Volga, and the Black Soils Region. Heavy snow covered the southern Black Soils Region, with precipitation amounts ranging from 25-50mm. Elsewhere, light rain covered the southern Ukraine and the North Caucasus. Weekly average temperatures were above normal in the west and below normal in the east. Winter grains remained dormant everywhere except for crop areas adjacent to the Black Sea, where growth continued.



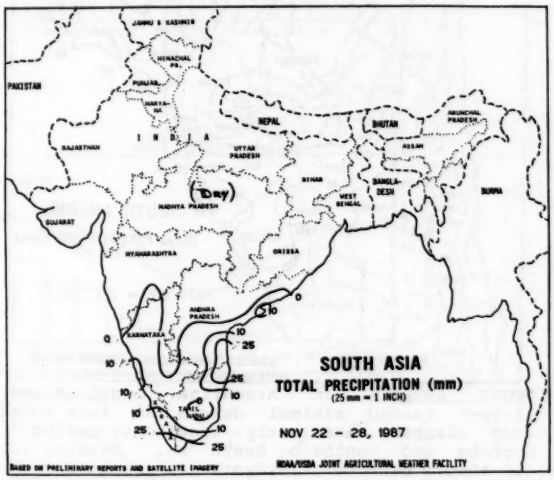

EUROPE...A persistent stormy weather pattern brought rain to most of Europe for the second week in a row, with heavy rainfall (greater than 25mm) over parts of France and much of southern Europe. Excessive rainfall (over 100mm) may have caused flooding over northern Spain, southern France, and northern Italy. The rain improved soil moisture levels and prospects for winter grains in the southeast, which are mainly vegetative. Rain caused some delays in late winter grain planting over southern Spain and Italy but brought soil moisture up to more favorable levels for establishment. In the north, rain and snow kept many fields unfavorably wet. Cooler temperatures halted crop growth, which has continued later than normal this season in the north due to above-normal temperatures.



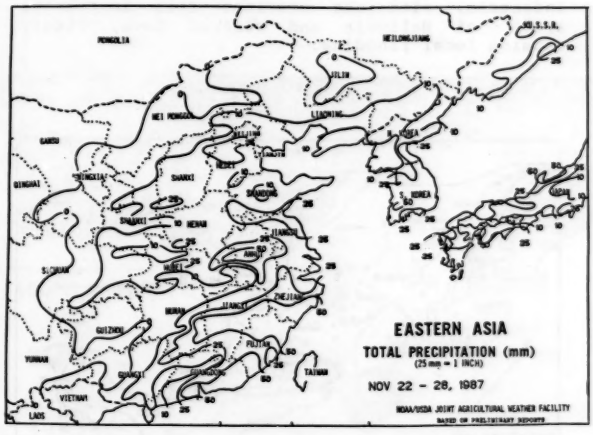

NORTHWESTERN AFRICA...Moderate rain (25-83mm) over central and northern winter grain areas in Morocco and western areas in Algeria provided abundant moisture for crop emergence and early growth. Light showers (5-20mm) covered winter grains in eastern Algeria and northern Tunisia moistening topsoils. Additional precipitation is needed in southern winter grain areas in eastern Algeria and Tunisia, where soil moisture is limited.



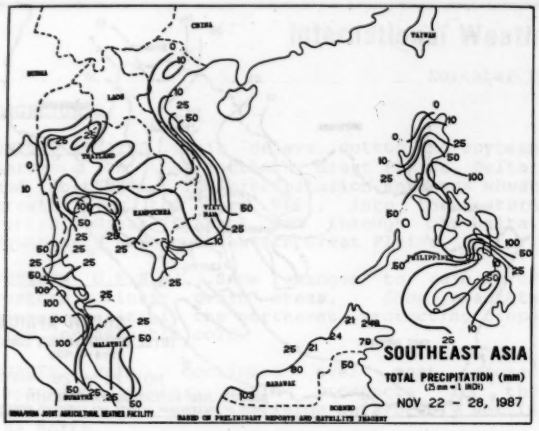

SOUTH AFRICA...Beneficial showers (10-50mm) maintained favorable conditions for corn emergence and establishment throughout South Africa's primary corn areas. Minimal rain (less than 5mm) continued for the second week in the southwestern half of Orange Free State and in persistently dry areas of northeastern Transvaal. Moisture levels throughout South Africa's primary corn regions favor early crop development, but persistent, heavy rain in the eastern part of the Maize Triangle likely necessitated some replanting.




SOUTH ASIA...Scattered showers (10-47mm) continued along India's southern coast, but drier weather (less than 6mm) covered crop areas further inland. Due to beneficial rainfall since early November, moisture continued adequate for the development of boll forming to filling cotton from southern Maharashtra southward and late planted, immature rice from Orissa to Bihar. Areas of Andhra Pradesh, too wet from the recent cyclone activity, benefited from the drier weather. Dry weather continued over northern wheat areas and returned to central India's wheat regions. India's wheat is mostly in the vegetative stage of development, though many chronically dry regions remain unplanted.

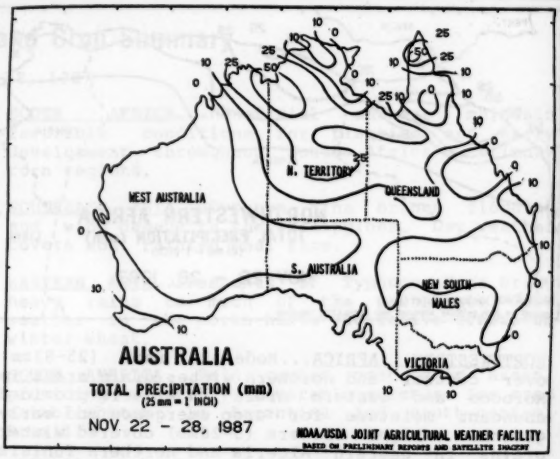



EASTERN ASIA...Remnants of Typhoon Nina brought heavy rain (greater than 25mm) to much of southeastern China, with up to 94mm in Fujian. The rain continued to delay late rice harvest, which has been slowed by persistent wet weather for the past few weeks. Elsewhere, a large dome of high pressure centered over Mongolia brought much cooler than normal weather to the North China Plain. Light to moderate rain and snow (10-25mm) over the region kept soil moisture at favorable levels. The cold weather halted vegetative growth of winter wheat in most areas with crops in the far north already dormant. In the North China Plain, winter wheat normally enters dormancy in late November in the north and in early December in the south.

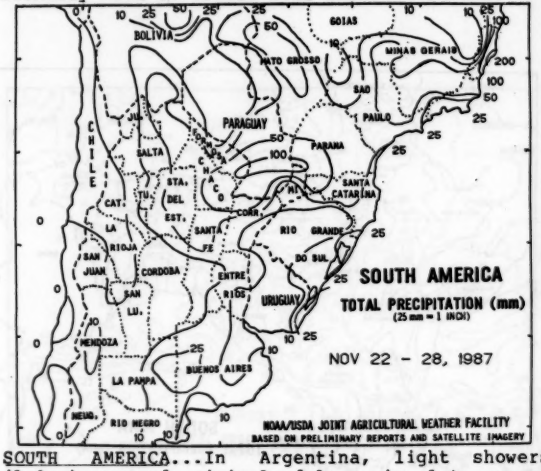



SOUTHEAST ASIA...Typhoon Nina brought heavy showers (exceeding 100mm) and high winds to the central Philippines, causing locally severe flooding and wind damage. The storm hit the southeastern tip of Luzon the hardest, but rice, sugarcane, and copra from southern Luzon through the central islands were also damaged. The storm missed Indochina but induced moderate showers (25-82mm) and wind along Vietnam's coast. Except for coastal areas, only light rain (less than 10mm) covered Indochina, with dry weather over Laos, northern Vietnam, and northern and eastern Thailand. Moisture continued limited for immature rice in eastern Thailand, but the dryness favored harvesting. Variable tropical showers covered Malaysia and Indonesia, with the heaviest rain in coastal areas of Malaysia and central Java, likely causing local flooding.

MEXICO...Light showers fell along the east coast and throughout the Southern Plateau cornbelt, but weekly total rainfall averaged less than 10mm. Dry weather covered the remainder of the country except for isolated showers along the tip of the Yucatan peninsula. The continued dryness favored harvesting of corn, soybeans, sugarcane, and other crops throughout the region. Weekly summaries will be discontinued until early spring. Monthly temperature and precipitation maps will be presented during the winter months, and occurrences of extreme weather events will be highlighted.

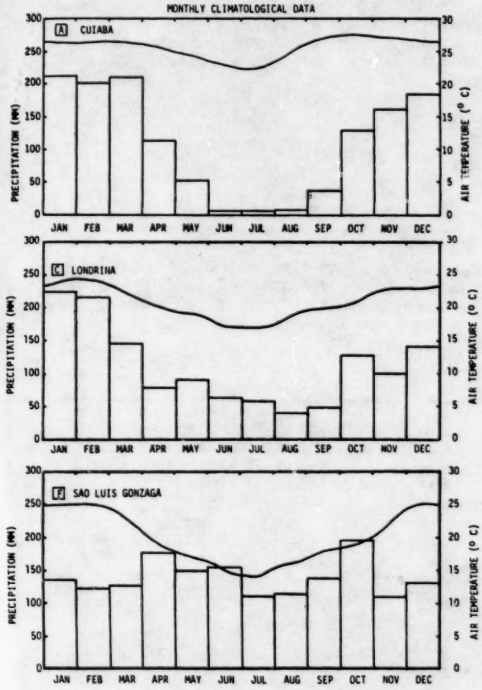


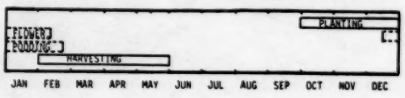

AUSTRALIA...Light to moderate rain (up to 19mm) fell overlsouthern wheat production areas, causing minor harvest delays and slowing drydown of maturing grain. Some wheat in Victoria is still in the late grain-filling period, while most of the crop in the remainder of the south is maturing. Mostly dry weather and seasonal temperatures benefited summer crops in growing areas of Queensland and New South Wales. Cotton in the east is mostly vegetative and developing normally with favorable soil moisture levels.

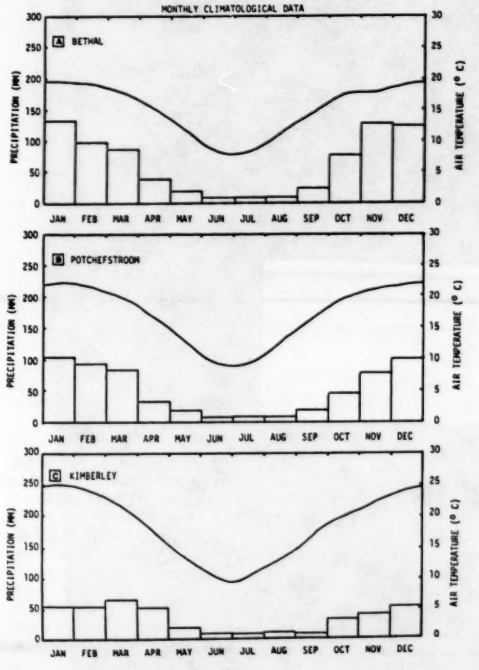


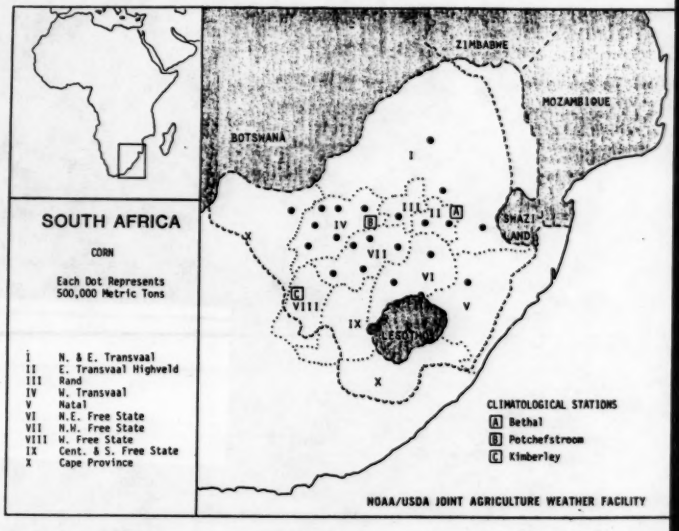

SOUTH AMERICA...In Argentina, light showers (1-9mm) caused minimal delays in late summer crop planting and early wheat harvesting in Cordoba and southern Santa Fe. Heavier rain (10-45mm) delayed fieldwork in western Buenos Aires and eastern La Pampa. Heavy rain soaked northern cotton areas. with weekly rainfall averaging 50-85mm in southeastern portions of Chaco and Formosa, and 25-50mm over the remainder of Chaco, Formosa and northern Santa Fe. Inundating rain (85-185mm) fell over southern Paraguay. Substantial showers also covered most of Brazil's soybean areas, producing 25-90mm of weekly rainfall from Santa Catarina northward through Parana into Mato Grosso do Sul, Sao Paulo, and Minas Gerais. Light rain (mostly less than 10mm) in Rio Grande do Sul caused only minor delays in late soybean planting. Moisture is sufficient for early crop growth in most all areas. Recent rainfall, however, has been light in southwestern Rio Grande do Sul.

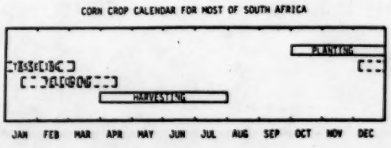
# BRAZIL SOYBEAN AND SOUTH AFRICAN CORN AREAS


MONTHLY CLIMATOLOGICAL DATA
A CUIABA
C LONDRINA
F SAO LUIS GONZAGA
PRECIPITATION (MM)
AIR TEMPERATURE (° C)
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC


SOYBEAN (SINGLE-CROPPED) CROP CALENDAR FOR MOST OF BRAZIL
PLANTING
HARVESTING
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC



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# Crop Progress

FOR WEEK ENDING NOVEMBER 29, 1987

COTTON
% HARVESTED

| | 1987 | 1986 | AVG. |
|---|---|---|---|
| ALA | 100 | 96 | 94 |
| ARIZ | 91 | 91 | 90 |
| ARK | 100 | 98 | 95 |
| CALIF | 97 | 95 | 91 |
| GA | 97 | 85 | 87 |
| LA | 100 | 100 | 95 |
| MISS | 100 | 100 | 93 |
| MO | 100 | 98 | 96 |
| N MEX | 59 | 50 | 67 |
| N C | 98 | 89 | 85 |
| OKLA | 40 | 10 | 35 |
| S C | 99 | 78 | 89 |
| TENN | 100 | 94 | 94 |
| TEX | 51 | 36 | 53 |
| 14 STATES | 76 | 67 | 74 |

THESE 14 STATES PRODUCED 100% OF THE 1986 COTTON CROP.

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